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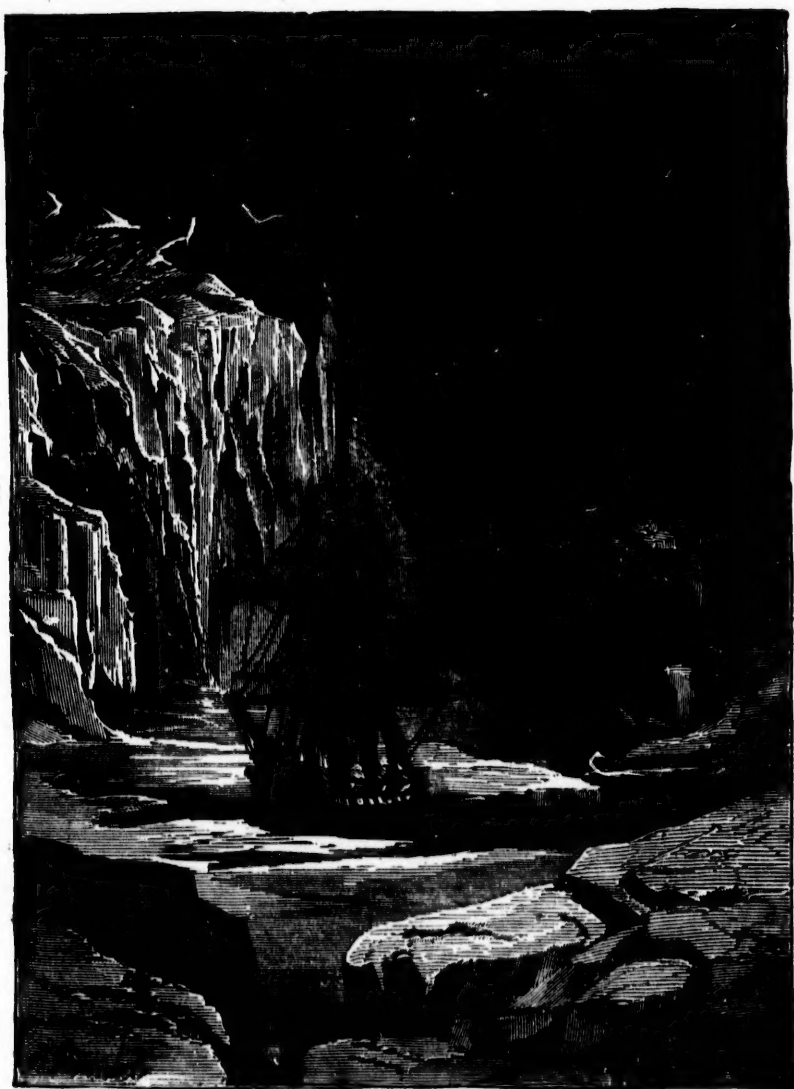
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WINTERING IN THE ICE.

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[*Frontispiece.*

ICE-WORLD ADVENTURES:

OR,

Voyages and Travels in the Arctic Regions.

*FROM THE DISCOVERY OF ICELAND TO THE
ENGLISH EXPEDITION OF 1875.*

EDITED BY

JAMES MASON.



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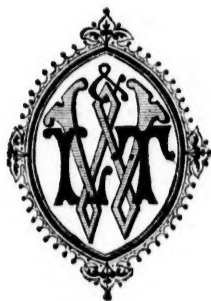
IN THE

ARCTIC REGIONS.

FROM THE DISCOVERY OF ICELAND TO THE ENGLISH
EXPEDITION OF 1875.

EDITED BY

JAMES MASON.



London:

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PREFACE.

For several hundred years the Arctic Regions have been explored by adventurous seamen, and have formed the scene of many brave deeds, hairbreadth escapes, patient efforts, wonderful successes, and not a few thrilling disasters.

In the following work an account is given of all the remarkable expeditions made into the Polar World from the discovery of Iceland to the English Expedition of 1875, the information regarding the latter being brought down to the latest date.

It is a book which contains, in a more convenient form perhaps than any other, a record of the enterprise of civilised man within the Arctic Circle. We may see in it how for ages men have faced the gloomy powers of cold and darkness in hopes to discover a navigable route to the gorgeous climes of India and China. We may read also of the search for Franklin, in which the best energies of our nation were called forth; of the discovery of new lands and seas; of voyages in the interest of science; of mutinies and shipwrecks and starvation; and—sitting comfortably by our firesides—we may cast a glance into that mysterious territory that lies between the known world and the hitherto unvisited North Pole.

Of our editorial labours it becomes us to speak with

diffidence, and we shall rise to no bolder height than to hope that the reader may find we have taken pains to serve him.

That part of our work which deals with Arctic voyages before 1818 is based on the carefully compiled "Chronological History of Voyages into the Arctic Regions," by Sir John Barrow. After that date, we have to acknowledge our obligations to various sources.

We were for some time in doubt whether to classify the voyages and other expeditions, or to adopt a chronological order. The former plan was at last decided on, because it seemed the clearer and more interesting of the two. But we have added in the last chapter a Chronological Account of Arctic Exploration, which may be found useful. A short description of the Arctic Regions—their geography, inhabitants, animals, and picturesque features—forms the introduction to the work, and a complete index will be found at the end. So much for explanation: it only remains now to wish well to all readers into whose hands our book may fall.

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ICE-WORLD ADVENTURES.

CHAPTER I.

THE ARCTIC REGIONS.

THE ARCTIC CIRCLE—GREENLAND—A FROZEN WASTE—KINDLY GOVERNMENT—IMPORTS AND EXPORTS—AT DISCO—ICELAND—SPITZBERGEN—SCANTY VEGETATION—JAN MAYEN—A TALE OF SUFFERING—SMITH'S SOUND—THE NORTH-WEST PASSAGE—A DESOLATE COAST—NOVA ZEMBLA—OUR CHART—THE REVOLVING YEAR—ICE OF ALL KINDS—THE ICEBLINK—ICEBERGS—A PICTURESQUE SCENE—A WANDERED ICEBERG—IN DANGER—INTENSE COLD—FROST-BITES—A TERRIBLE SCOURGE.

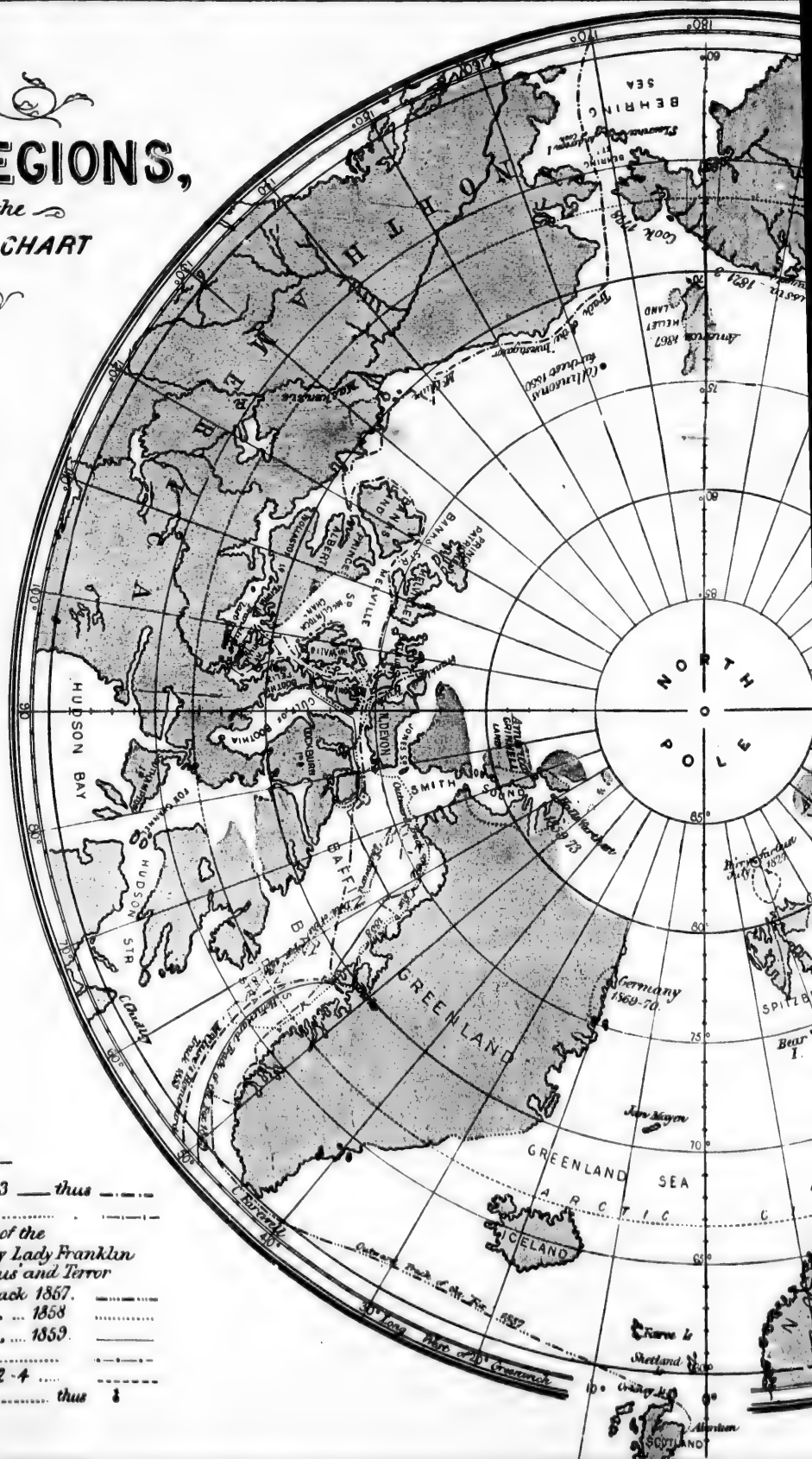
THE Arctic Regions, strictly speaking, comprehend those portions of land and water which lie between the Arctic Circle and the North Pole. The Arctic Circle, we may add, is a circle drawn round the Pole at a distance from it of $23\frac{1}{2}^{\circ}$. It is the parallel of latitude "at which we begin to find the sun at one time of the year not setting for more or fewer days together, and at another time not rising for as many."

Usually, however, a considerably wider signification is given to the term Arctic Regions, and it is popularly applied to all those districts within or near the Arctic Circle which are subject to extreme degrees of cold. It is held, for example, to include the south of Greenland and Davis's Strait, although both lie south of the Circle. Cape Farewell, indeed, the farthest south point of Greenland, is in the same latitude as the north of Scotland.

We shall glance first of all at the principal geographical divisions of this realm of ice and snow, and afterwards give a short account of the various features of its seasons

The ARCTIC REGIONS,

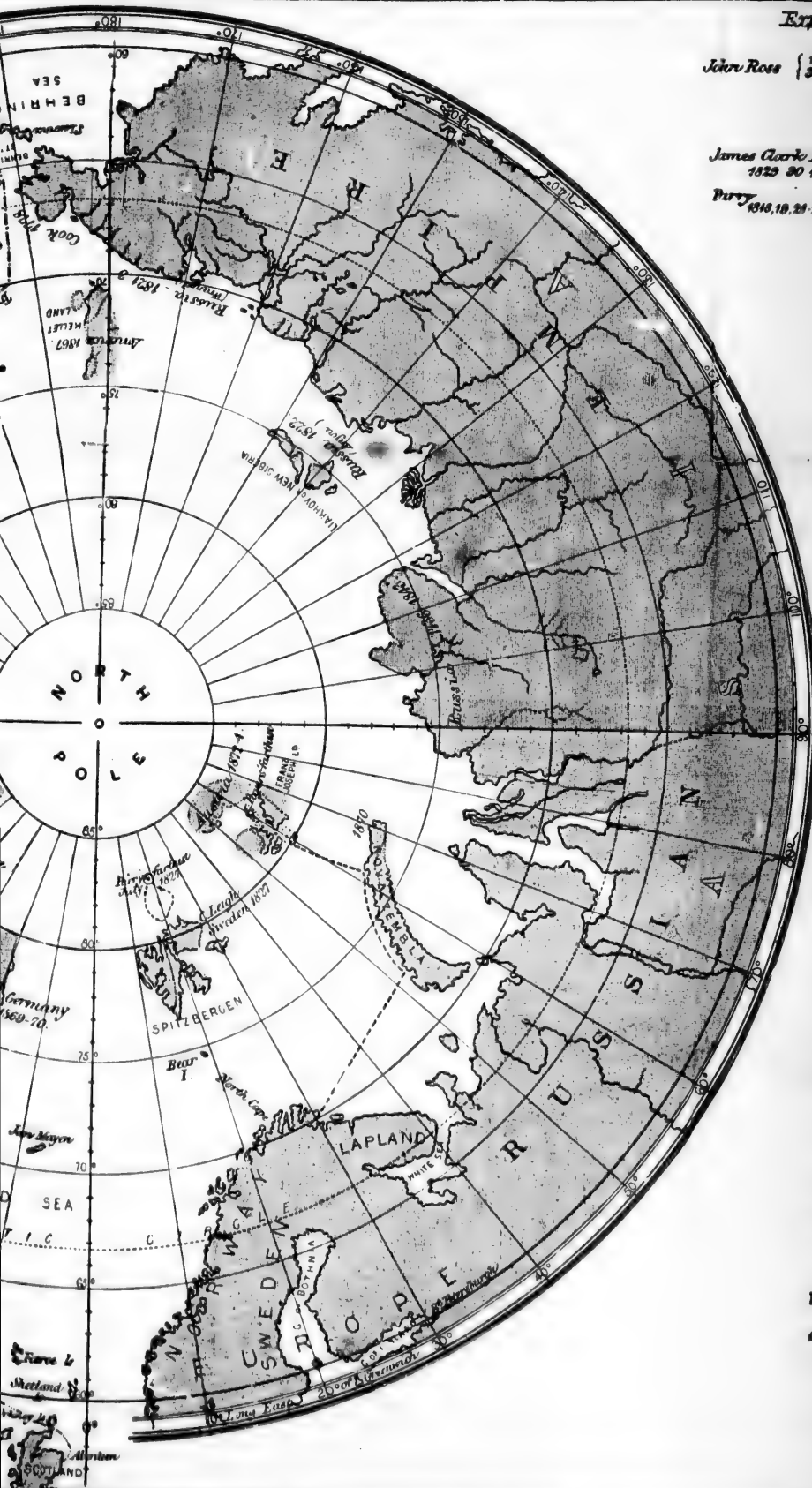
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1875.



Reference.

McClure's Track 1850-2-3 — thus ———
Franklin's Track
M'Clintock in command of the
Yacht 'Fox' despatched by Lady Franklin
in search of J.M.S. Erebus and Terror
1857 to 1859, outward track 1857.
1858
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Sledge
Austro-Hungarian Expedition 1872-4
Magnetic Pole thus

Explorers from 1818



John Ross { 1818-20 - 20-1 23. Buchan 1818

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James Clark Ross { 1829 30 1 2 48 3. Baron von Wrangel 1820 3

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Eschsch 1824-5.

Liddon 1829-30

Grogier 1845-6 7

Franklin { 1819 20 1 2 3 4 5 6 7 - 44, 5, -

Richardson 1825 6 7

Beckley 1823-4 6 7

Baird 1833-4 5

Prase 1837-8

Simpson 1838-40

Rae 1847-51

Fellott 1852-3

Austin 1850

Penny 1850

Kearney 1851-2

Inglefield 1852-3

Collinson 1850-1 2 3 4

Shepard Osborn 1850-1

McClure 1850-1 12

Forryde 1850

Ommatney 1850

De Haven 1850

Belcher 1851-3

Kane 1853-4 5

McClintock 1852 3 7 8 9

Lagh Smith 1851

Hayes 1860-1

Koldewey 1860-3

Hall 1871, 2, 3

Weyprecht { 1872 3, 4.

and Payer }

and the nature of its inhabitants, plants, and animals, together with such other information as the reader may find useful when he comes—as he will shortly—to follow the career of adventurous arctic explorers.

The most extensive of all arctic territories, and one of which we shall hear a good deal in the following pages, is Greenland. Greenland, as it appears on our maps, is a huge wedge of land hanging down from the North Pole. It stretches from Cape Farewell, its southern extremity, along the Atlantic and Arctic Oceans on the east, and Davis's Strait, Baffin's Bay, and Smith's Sound on the west. Its general form is roughly triangular.

The shores on the western and part of the eastern sides have been more or less completely explored. Hardly anywhere is there a straight or unbroken line of coast; deep fiords intersect it at short intervals. These fiords run to a certain extent parallel with each other, often for great distances into the land. In some cases they are divided into numerous branches or tributary fiords. The fiords are more numerous on the west than on the east.

Of the interior of Greenland very little is known. As the superficial area can hardly be less than 750,000 miles, explorers will at once see that they have an extensive field for their future labours. So far as any definite knowledge of the interior goes, we know almost as little to-day as was known when the country was first discovered, about nine hundred years ago.

"True," says Dr. Robert Brown, "we know that it is covered with an immense glacier expansion. But whether this glacier expansion is unbroken from east to west we can only reason from analogy, and are not able to speak with the authority and confidence which actual observation gives." The reader will find a summary of the different attempts to examine this frozen land in our chapter on "The Exploration of Greenland."

In the meantime we shall do no more than quote the

impression produced on a party of English and Danes, who in 1867 attempted to make their way over the icy desert. They started from the coast in 69° N. lat.; but after going some distance were obliged to return, their sledges having been broken to pieces by the rough nature of the ground they had to traverse.

One of the party thus describes the scene: "The whole interior of the country appears to be merely a frozen waste, overlain to the depth of many feet by a huge *mer de glace*, extending, so far as yet known, over its entire extent from north to south—a sea of fresh-water ice, wherein no creature lives; a death-like desert, with nought to relieve the eye, its silence enlivened by the sound or sight of no breathing thing. This is the *Inlands iis* of the Danish colonists; the outer strip, with its mossy valleys and ice-planed hills, is the well remembered *Fastland*. Dreary, doubtless, it is to eyes only schooled in the scenery of more southern lands; but with its coveys of ptarmigans flying up at your feet with their *whir*, the arctic fox barking its *huc huc* on the rocks, and the reindeer browsing in the glens covered with the creeping birch, the arctic willows, the cranberry, the *vacciniums*, and the yellow poppies, it is a place of life compared with the cheerless waste lying beyond."

The western shores of Greenland up to 73° N. lat. are claimed by the Danes. "For trading purposes," remarks Sir Leopold McClintock, "Greenland is monopolised by the Danish Government. Its Esquimaux and mixed population amount to about 7000 souls. About 1000 Danes reside constantly there for the purpose of conducting the trade, which consists almost exclusively in the exchange of European goods for oil and the skins of seals, reindeer, and a few other animals. The Esquimaux are not subject to Danish laws, but, although proud of their nominal independence, they are sincerely attached to the Danes, and with abundant reason. A Lutheran

clergyman, a doctor, and a schoolmaster, whose duty it is to give gratuitous instruction and relief, are paid by the Government, and attached to each district; and when these improvident people are in distress, which not unfrequently happens during the long winters, provisions are issued to them free of cost. Spirits are strictly prohibited. All of them have become Christians, and many can read and write."

The exports of Greenland are whale and seal oil and cryolite, the skins of the seal, reindeer, and fox, and eider down. The imports are wheat, brandy, coffee, sugar, tobacco, and firewood.

Disco is one of the principal of the islands on the west coast. It lies in the bay of the same name, between latitude 69° and 70°. "Disco Island," says Dr. Hayes, in his "Land of Desolation," "is one of the most notable localities in Greenland. There is a legend that a mighty sorcerer dragged the island there from the south, and a remarkable hole in the rock is pointed out through which the evil genius rove his rope. On the south side of the island there is a low and rugged spur of granite rock, near a mile in length, which encloses as perfect a little harbour as can anywhere be found, and this the Danes have expressed in the name *Godhavn* (good haven), which they have given it.

"The little town takes its name from the harbour, though better known by the English whalers' name of Lively, which is probably a corruption of 'lively;' for the town is the metropolis of North Greenland, and has been a general *rendezvous* for whale and discovery ships from the beginning of the present century."

Two hundred and fifty miles distant from the east coast of Greenland, and separated from it by Denmark Strait, is Iceland. "Iceland," remarks one writer, "is in many respects one of the most interesting parts of the world. Its physical features are very remarkable, and not less so its history and the character of its inhabitants. It consists

in great part of lofty mountains, many of which are active volcanoes. Only certain level districts along the coasts, and a few dales, are habitable, or in any degree capable of cultivation, whilst even there scarcely a tree is to be seen, and the climate is unsuitable for grain.

"The interior of the island is almost entirely occupied with rugged tracts of naked lava and other volcanic products, vast ice-fields in many places connecting its high mountain summits, among which are prodigious glaciers, in some instances descending even to the coast. These glaciers, and the torrents that gush from them, render communication between one inhabited spot and another very difficult and dangerous."

The subject of Iceland is a tempting one, but we must not pursue it. In an early chapter we shall have to speak of its discovery and settlement. Meanwhile, we pass on to the far north, where, to the east of Greenland, and lying between 77° and 80° N. lat., lies Spitzbergen.

Spitzbergen is a group of islands lying three hundred miles north of Scandinavia, and three hundred and twenty-five east of Greenland. It consists of three large and several small islands, and is calculated to contain about 30,000 English square miles.

Nearly the whole of the surface is covered with eternal snow and ice. The whole of the west side is mountainous. For ten months of the year mercury freezes, and for the other two months the mercury is rarely more than 5° above the freezing point.

About forty species of plants constitute the scanty vegetation of this inhospitable region. By dint of great dexterity they manage to spring up in the short summer and produce and ripen their seed. On the whole of Spitzbergen there is not sustenance for one human being. Reindeer, foxes, and bears, however, abound.

The discovery of Spitzbergen took place in 1596. It was first arrived at by William Barentz, the Dutch

explorer, when on his third voyage to discover the North-east Passage. Russia lays claim to it as a dependency on its European territories.

Attempts have been repeatedly made to form establishments upon Spitzbergen, for the purpose of reducing the whale blubber to oil on the spot, and of collecting the skins of bears, foxes, and walruses; but the individuals upon whom the experiments of colonization were made generally fell victims to that dreadful malady the scurvy, which the climate of Spitzbergen seems particularly calculated to promote.

The island of Jan Mayen, to the south-west of Spitzbergen, in latitude 71° , is a dreary, uninhabited waste in the midst of a frozen ocean. Flames and smoke have been seen to issue from the top of its highest mountain, called Beerenberg. The Dutch attempted to form a settlement here as they did at Spitzbergen—it also would be very convenient, they thought, for whaling purposes; but when winter was over, it was found that several of the colonists were dead, and the attempt was abandoned.

Attempts at colonization in these inhospitable regions seem to have been quite the fashion at one time. They almost all had a like result. If the reader has a taste for the horrible, let him read the following account of a party of seven men who were landed in 1643 upon Amsterdam Island, in latitude $79^{\circ} 42' N$. In Churchill's Collection we find the narrative of their sufferings drawn up from the journal which was kept by one of the unfortunate beings who perished on this occasion.

The early part of the journal has been omitted, as containing nothing of interest, and we take notice first of the day on which the sun appeared for the last time that season: for the last time these unfortunate beings were destined to behold it. This occurred on the 21st of October.

From that date until the 24th of November we hear of

no complaint; but they now began to feel the effect of the climate and of their unnatural mode of existence in the appearance of that disease which is so fatal in those climates. In anticipation of this complaint, they had provided a "scorbutic potion," of which they partook as soon as they noticed symptoms of the disease. It did not benefit them much, however, and one after another the party fell sick and took to their beds.

On the 12th of December, although total darkness reigned throughout the twenty-four hours, such of the party as could walk got out of bed and went in search of fresh food and vegetable diet. After an unsuccessful search they returned to their miserable dwelling to brood over their misfortunes.

From day to day they watched anxiously for the approach of some animal that would afford them a fresh meal. On the 23rd of December their vigilance was repaid by the appearance of a bear. He came so near, that he was wounded from the hut. The animal struggled hard, and at length broke away from the party, who had not much strength left for such encounters. The poor men were determined not to lose this opportunity, their last hope of obtaining a fresh meal: provided with lanterns, they pursued the animal with all the ardour of men whose life was at stake. But all was to no purpose; the bear escaped, and they made their way back with feelings more easily to be imagined than described.

Three weeks after this, death put an end to the sufferings of one of the party; another died the following day; a third expired two days after. The four who remained contrived to make coffins for their departed comrades, but they were too feeble to carry them out of the house.

The daylight now began to dawn in the south about noon. As it increased, foxes came about the hut, and the party were fortunate enough to kill one. They also saw many bears, but were too weak to pursue them.

Their earthly career was now drawing to a close: debility heightened into cruel pain. In the last stage of their disease, while they yet retained their faculties, one of them penned the following affecting paragraph:—

“Four of us that are still alive lie flat upon the ground in our hut; we think we could still feed were there but one among us that could stir out of our hut to get us some fuel, but nobody is able to stir for pain. We spend our time in constant prayer, to implore God’s mercy to deliver us out of this misery, being ready whenever He pleases to call us. We are certainly not in a condition to live long without food or fire, and cannot assist one another in our mutual applications, but must every one bear his own burthen.”

In charity we hope they did not long survive the time when these lines were penned. In the following summer their bodies were found by ships, which were purposely sent from Holland to inquire into their fate.

Resuming our geographical survey, the reader will observe that between Greenland and the opposite coast of America lie Davis’s Strait, and Baffin’s Bay. To the north-east of Baffin’s Bay is Smith’s Sound, a channel which is supposed to open into the Polar Sea.

To the west of Davis’s Strait and Baffin’s Bay is a confused mass of peninsulas, islands, and winding passages. Amongst these lies the famous North-west Passage, so long sought for, and only discovered within our recollection. It is a passage or channel of water existing between Davis’s Strait and Baffin’s Bay on the east, and Behring’s Strait on the west.

The actual accomplishment of the North-west Passage is still to be effected, but that water communication exists is established both by the voyage of Sir John Franklin and that of Sir Robert Maclure. The former sealed the discovery with his life, whilst the latter connected the communication by travelling over the ice-covered strait, and

returning to England by the strait he had not entered by. The tracks of these two discoverers are clearly delineated on our map.

Westwards of the archipelago of islands the continental coast runs nearly on the parallel of 70° N. lat. It is a bare, monotonous coast. The chief rivers which intersect it are the Coppermine and the Mackenzie.

To the west of Behring's Strait, the north coast of Asia is remarkable for its containing the estuaries of some of the largest rivers on the globe. An extensive tract bordering the ocean is composed of swamps and mossy flats covered with ice and snow for half the year. The greatest heat of summer reaches only two or three inches below the surface of the soil. For more than half the year the ocean is covered with ice for miles seaward, and even during the open season the sea is so hampered with icebergs and floes that navigation is rendered extremely dangerous.

To the north-west of the mouth of the Lena lies a group of islands of considerable extent, known as the Liakov Islands, or New Siberia. They are uninhabited, and as barren as can be. Traces, however, have been found of former residents, and in the soil great numbers of bones and teeth of the mammoth and rhinoceros have been discovered.

The island chain of Nova Zembla lies north-west from the mouth of the Obi, and it has been pointed out by one authority that it may be considered as an insular continuation of the Ural Mountains. The island farthest to the south is specially called Nova Zembla; of the others the principal are Matthew's Land and Lütke's Land. They are wild, rocky, and desolate. The vegetation consists chiefly of moss, lichens, and a few shrubs. Nova Zembla is frequently visited by fishermen and hunters, as the coasts abound with whales and walruses, and the interior swarms with bears, reindeer, and foxes. It has, however, no permanent inhabitants.

We may add here a word in explanation of our chart of the circumpolar regions.

Were we to take a globe, carefully cut the paper right round at the 60th degree of north latitude, and spread it out flat, it would represent the portion of the globe we have illustrated. The centre will of course be the northern axis of the earth, the vertical line will be the meridian of Greenwich to the Pole, and the 180th degree of east and west longitude on the other side of the Pole; all the radiating lines are meridians of longitude (slightly distorted by the curvature of the earth), whilst the circular ones are parallels of latitude. The map shows conspicuously the unexplored polar region--the bald crown of the globe.

This vast area, whose icy silence has never been disturbed by civilized man, has only been penetrated in three directions, as our map clearly shows:--first by Parry, who, on 'July 23rd, 1827, reached the parallel of $82^{\circ} 45' N.$, in boats and sledges, over a broken and irregular surface of ice, and who, mounted on one of the highest hummocks, could see nothing but the same broken and irregular surface of ice to the northern horizon; second, by Hall, who reached the parallel of $82^{\circ} 16' N.$, in the the *Polaris*, a gunboat of little less than 400 tons, on August 30th, 1871, and still had open water to the north; third, by the Austrian expedition, under Weyprecht and Payer who, although they could not get their ship the *Tegethoff* up to the 80th parallel, managed with sledges to reach $82^{\circ} 5' N.$

It will be seen that the honour of attaining the highest latitude yet reached, the nearest point to the Pole, is due to our gallant countryman Sir Edward Parry, who reached a point but little more than 400 miles from the Pole, or about the distance between London and the capital of Scotland.

It will be interesting if we sketch the features of the

revolving year within the arctic circle. After the continued action of the sun has at last melted away the great body of ice, a short and dubious interval of warmth occurs. In the space of a few weeks, only visited by slanting and enfeebled rays, frost resumes his tremendous sway.

It begins to snow as early as August, and the whole ground is covered to the depth of two or three feet before the month of October. Along the shores and the bays the fresh water poured from rivulets or drained from the thawing of former collections of snow becomes quickly converted into solid ice. As the cold increases, the air deposits its moisture in the form of a fog, which freezes into a fine gossamer netting or spicular icicles, dispersed through the atmosphere, and extremely minute, that seem to pierce the skin. From the minute icicles cutting like lancets, the whalers call such a fog "the barber." The hoar frost settles profusely, in fantastic clusters, on every prominence. The whole surface of the sea steams like a lime-kiln—an appearance called the *smoke-frost*, caused, as in other instances of the production of vapour, by the water being still relatively warmer than the incumbent air. At length the dispersion of the mist, and consequent clearness of the atmosphere, announces that the upper stratum of the sea itself has become cooled to the same standard; a sheet of ice spreads quickly over the smooth expanse, and often gains the thickness of an inch in a single night.

The darkness of a prolonged winter now broods over the frozen region, unless the moon chance at times to obtrude her rays, only to discover the horrors and wide desolation of the scene. As the frost continues to penetrate deeper, the rocks are heard at a distance to split with loud explosions. The sleep of death seems to wrap up the scene in utter and oblivious ruin.

At length the sun reappears above the horizon; but his languid beams rather betray the wide waste than brighten

the prospect. By degrees, however, the farther progress of the frost is checked. As the sun acquires elevation, his power is greatly increased; the snow gradually wastes away, the ice dissolves apace, and vast fragments of it, detached from the cliffs and undermined beneath, precipitate themselves on the shores with the noise and crash of thunder. The ocean is now unbound, and its icy dome broken up with tremendous rupture.

The enormous fields of ice thus set afloat are by the violence of winds and currents again dissevered and dispersed. Sometimes impelled in opposite directions, they approach and strike with a mutual shock, like the crash of worlds—sufficient, if opposed, to reduce to atoms in a moment the proudest monuments of human power.

Before the end of June the shoals of ice in the arctic seas are commonly divided, scattered, and dissipated; but the atmosphere is then almost continually damp and loaded with vapour. At this season of the year a dense fog generally covers the surface of the sea, of a milder temperature indeed than the frost-smoke, yet produced by an inversion of the same cause. The lower stratum of air, as it successively touches the colder body of water, becomes chilled, and thence disposed to deposit its moisture. Such thick fogs, with mere gleams of clear weather, infesting the northern seas during the greater part of the summer, render their navigation extremely dangerous.

In the course of the month of July the superficial water is at last brought to an equilibrium of temperature with the air, and the sun now shines out with a bright and dazzling radiance. For some days before the close of the summer, such excessive heat is accumulated in the bays and sheltered spots, that the tar and pitch are often melted, and run down the ships' sides.

Through the fogs of the arctic regions appear mock suns and mock moons, and all the phenomena arising from refraction are exhibited on a large scale. Ships may

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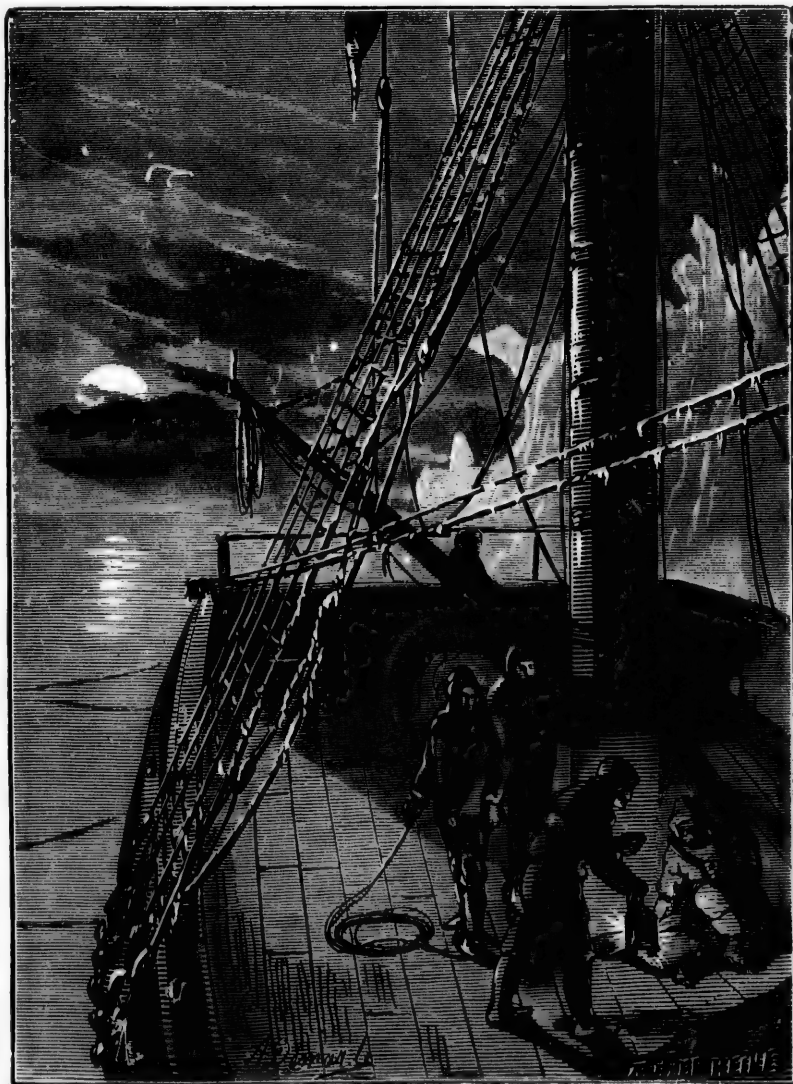
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A CLEAR NIGHT IN THE POLAR REGIONS.
Ice-World Adventures.

be seen as if upturned in the air sailing past inverted icebergs.

When the air is clear words sometimes fail to describe the loveliness of the polar sky—"The intense beauty of the arctic firmament," says Dr. Kane on one occasion, "can hardly be imagined. It looked close over our heads, with its stars magnified in glory, and the very planets twinkling so much as to baffle the observations of the astronomers. I have trodden the deck when the life of earth seemed suspended—its movements, its sounds, its colouring, its companionship; and as I looked on the radiant hemisphere circling above me, as if rendering worship to the centre of light, I have ejaculated in humility of spirit, 'Lord, what is man that Thou art mindful of him? and then I have thought of the kindly world we have left, with its revolving sunlight and shadow, and the hearts which warmed us there, till I have lost myself in memories of those who are not; and they bore me back to the stars again.'"

The most prominent feature of the arctic regions is that of the sea being encumbered with ice. This ice is of two sorts, marine and fresh-water.

The whale-fishers enumerate several varieties of salt-water ice. A very wide expanse of it they call a *field*, and one of smaller dimensions a *floe*. When a field is discovered by a subaqueous or *ground* swell, it breaks into numerous pieces, seldom exceeding forty or fifty yards in diameter, which, taken collectively, are termed a *pack*. This pack again, when of a broad shape, is called a *patch*; and when much elongated, a *stream*.

The packs of ice are crowded and heaped together by violent winds, but they again separate and spread asunder in calm weather. If a ship can sail freely through the floating pieces of ice it is called *drift-ice*, and the ice itself is said to be *loose* or *open*. When, from the effect of abrasion, the larger blocks of ice are crumbled into minute fragments, this collection is termed *brash ice*.

A portion of ice rising above the common level is termed a *hummock*, being produced by the squeezing of one piece over another. These hummocks or protuberances break the uniform surface of the ice, and give it a most diversified and fantastic appearance. They are numerous in the heavy packs, and along the edges of ice-fields, reaching sometimes to the height of thirty feet.

The term *sludge* is applied by the sailors to the soft and incoherent crystals which the frost forms when it first attacks the ruffled surface of the ocean. As these increase they have some effect, like oil, to still the secondary waves; but they are prevented from coalescing into a continuous sheet by the agitation which still prevails, and they form small discs, rounded by continual attrition, and scarcely three inches in diameter, called *pancakes*. Sometimes these again unite into circular pieces, perhaps a foot thick, and many yards in circumference.

The fields, and other collections of floating ice, are often discovered at a great distance, by that singular appearance on the verge of the horizon which the Dutch seamen have termed *ice-blink*. It is a stratum of lucid whiteness, occasioned evidently by the glare of light reflected obliquely from the surface of the ice against the opposite atmosphere. This shining streak, which looks always brightest in clear weather, indicates to the experienced navigator, twenty or thirty miles beyond the limit of direct vision, not only the size and shape, but even the quality of the ice. The blink from packs of ice appears of a pure white, while that which is occasioned by snow-fields has some tinge of yellow.

The fresh-water ice of the polar seas is derived from the glaciers, which flow out of almost every valley in these regions. These glaciers enter the sea, and plough their way for some distance along the bottom till the action of the water tilts up the end, which floats away in the shape of an iceberg.

The mountains of hard and perfect ice known as *icebergs* are the gradual productions perhaps of many centuries. Along the western coast of Greenland, prolonged into Davis's Strait, they form an immense rampart, which presents to the mariner a sublime spectacle, resembling at a distance whole groups of churches, mantling castles, or fleets under sail. Every year, but especially in hot seasons, they are partially detached from their seats, and whelmed in the deep sea. In Davis's Strait these icebergs appear the most frequently, and about Disco Bay, where the soundings exceed 300 fathoms, masses of such enormous dimensions are met with, that the Dutch seamen compare them to cities, and often bestow on them the familiar names of Amsterdam or Haerlem. They are carried towards the Atlantic by the current, which generally flows from the north-east, and after they reach the warmer water of the lower latitudes, they rapidly dissolve and finally disappear, probably in the space of a few months.

Speaking of the great ice-fiord of Jakobshavn, which annually pours an immense number of icebergs into Disco bay, Dr. Robert Brown says: "When viewed out of danger, this noble assemblage of ice-palaces, hundreds in number, being seen in summer from the end of Jakobshavn Kirke, was a magnificent sight; and the voyager might well indulge in some poetic frenzy at the view. The noon-day heat had melted their sides, and the rays of the red evening sun glancing askance among them would conjure up fairy visions of castles of silver and cathedrals of gold floating in a sea of summer sunlight. Here was the Walhalla of the sturdy Vikings; here the city of the sun-god Freyr; Alheim, with its elfin caves; and Glitner, with its walls of gold and roofs of silver; Gimle, more brilliant than the sun; Gladsheim, the celestial mount, where the bridge of the gods touches heaven.

"Suddenly there is a swaying, a moving of the water, and our fairy palace falls in pieces, or with an echo like

a prolonged thunder peal it capsizes, sending the waves in breakers up to our very feet. Some of these icebergs are of enormous size. Hayes calculated that one "stranded" in Baffin's Bay, in water nearly half-a-mile in depth, contained about 27,000,000,000 cubical feet of ice, and must have weighed not less than 2,000,000,000 tons."

The following interesting description of icebergs which he met with in the Atlantic is given by an anonymous writer:—"One morning, earlier than the usual time of rising, the steward awakened us with news that icebergs were close at hand. This was charming intelligence, for so late in the season they are but rarely met with. We were all soon on deck, and for a worthy object.

"One was a grand object, with two great domes, each as large as that of St. Paul's; the lower part was like frosted silver. Where the heat of the sun had melted the surface and it had frozen again, in its gradual decay it had assumed all sorts of angular and fantastic shapes, reflecting from its green transparent mass thousands of prismatic colours, while below, the gentle swell dallied with its cliff-like sides.

"The action of the waves had worn away a great portion of the base over the water into deep nooks and caves, destroying the balance of the mass. While we were passing, the crisis of this tedious process chanced to arrive; the huge white rock tottered for a moment, then fell into the calm sea with a sound like the roar of a thousand cannon, the spray rose to a great height into the air, and large waves rolled round, spreading their wide circles over the ocean, each ring diminishing till at length they sank to rest. When the spray had fallen again, the glittering domes had vanished, and a low long island of rough ice and snow lay on the surface of the water."

Icebergs and floes or ice-fields are often laden with pieces of rock and masses of stones and detritus, which they have brought with them from the coasts where they were

formed, and which they often transport to a great distance towards the equator.

It is the floes or fields of ice that are chiefly dangerous to the mariner. During the spring and summer they are broken up and moved to and fro by the currents in large pieces several miles in extent. The navigator, on his way northward, comes to a place where his passage is barred by one of those fields. By means of an ice-anchor he anchors on to the edge until he perceives two fields separate, leaving a lead or lane of water. Into this lane he pushes. But it may be, that, before he is half way through, he sees the fields gradually closing again. He puts forth all his energies, by tracking the ship along the edge of the ice, or by pulling it ahead by boats, if in a calm. If he sees he cannot get through in time, he immediately sets all hands to cut a "dock" in the ice. This is done by means of ice-saws: a piece of ice representing a space in which the ship can lie comfortably is cut out of one of the fields. The ship is brought into the dock, and when the two fields come together she escapes being nipped. Should the navigators not be expert enough, nothing can save the vessel.

Arctic navigators, when going through dangerous places, are ever careful to provide against disaster. Casks of provisions and bags of clothing are laid ready on deck, and should several vessels be in company, they proceed in twos and threes, so that they may render each other assistance. Should a vessel have the misfortune to be smashed, the men on board throw the provisions and other things which have been lying in readiness upon the ice, and then themselves escape upon the field. The ice opens again, and the vessel sinks, but the crew are safe. So quickly does what we have described sometimes happen, that only a few minutes may elapse between the time when the ship was in safety and when she disappears beneath the waves. At other times, however, she may remain buoyed up for

several days, and even escape total wreck should the shock not have been very severe.

In the long and gloomy winters of the polar regions the cold assumes an intensity of which we who live at home at ease can form little conception.

Mercurial thermometers often become useless, for when the mercury solidifies, it can sink no farther in the tube, and ceases to be a correct indicator. As a more available instrument, a spirit thermometer is then used, in which the place of mercury is supplied by rectified spirit of wine. With such thermometers, our arctic explorers have recorded degrees of cold far below the freezing point of mercury. Dr. Kane, the American arctic explorer, in his narrative of the Grinnell Expedition in search of Franklin, records having experienced -42° on February 7th, 1851, that is 72° of frost, or 3° below the freezing point of mercury.

On Washington's birthday, February 22nd, the crew had a dramatic performance. The ship's thermometer outside was at -46° ; inside, the audience and actors, by aid of lungs, lamps, and hangings, got as high as -30° , *only* 62° below the freezing point—perhaps the lowest atmospheric record of a theatrical representation. It was a strange thing altogether. The condensation was so excessive, that they could barely see the performers, who walked in a cloud of vapour. Any extra vehemence of delivery was accompanied by volumes of smoke. Their hands steamed. When an excited Thespian took off his coat, it smoked like a dish of potatoes.

Dr. Kane records having experienced as low a temperature as -53° , or 85° below the freezing-point; but even this is surpassed in a register furnished by Sir Edward Belcher, who in January, 1854, with instruments of undoubted accuracy, endured for *eighty-four consecutive hours* a temperature never once higher than -50° . One night it sank to $-59\frac{1}{4}^{\circ}$; and on another occasion the degree of cold reached was $-62\frac{1}{2}^{\circ}$, or $94\frac{1}{2}^{\circ}$ below the freezing point. Reading such

statements excites our curiosity to know how such intense cold can be borne by the human frame. All the accounts obtainable tend to show that *food, clothing, activity, and cheerfulness*, are the four chief requisites.

Dr. Kane, who experienced more even than the usual share of sufferings attending these expeditions, tells many anecdotes relating to the cold. One of his crew put an icicle at -28° into his mouth to crack it: one fragment stuck to his tongue, and two to his lips, each taking off a piece of skin—*burning* it off, if one may be allowed to use the word in an inverse sense. At -25° “the beard, eyebrows, eyelashes, and the downy pubescence of the ears, acquire a delicate, white, and perfectly enveloping cover of venerable hoar-frost. The moustache and under lip form pendulous beads of dangling ice. Put out your tongue, and it instantly freezes to this icy crusting, and a rapid effort and some hand-aid will be required to liberate it. Your chin has a trick of freezing to your upper jaw by the luting aid of your beard; my eyes,” adds Dr. Kane, “have often been so glued as to show that even a wink may be unsafe.”

In reference to the torpor produced by extreme cold Dr. Kane remarks: “Sleepiness is *not* the sensation. Have you ever received the shocks of a magneto-electro machine, and had the peculiar benumbing sensation of ‘can’t let go’ extending up your elbow-joints? Deprive this of its paroxysmal character, subdue, but diffuse it over every part of the system,—and you have the so called pleasurable feeling of incipient freezing.”

One day Dr. Kane walked himself into a comfortable perspiration with the thermometer 70° below the freezing point. A breeze sprang up, and instantly the sensation of cold was intense. His beard, coated before with icicles, seemed to bristle with increased stiffness, and an unfortunate hole in the back of his mitten “stung like a burning coal.” On the next day, while walking, his beard and moustache became one solid mass of ice. “I in-

advertently," he says, "put out my tongue, and it instantly froze fast to my lip. This being nothing new, costing only a sharp pull and a bleeding afterwards, I put up my mittened hands to 'blow hot' and thaw the unruly member from its imprisonment. Instead of succeeding, my mitten was itself a mass of ice in a moment; it fastened on the upper side of my tongue, and flattened it out like a batter-cake between the two discs of a hot girdle. It required all my care with the bare hands to release it, and then not without laceration."

It is commonly supposed that the cold increases as we go northward. This is a popular error: the temperature of the arctic regions depends in a great measure on the currents and drift-ice.

Sir Edward Parry remarks in reference to extremely low temperatures: "Our bodies appeared to adapt themselves so readily to the climate, that the scale of our feelings, if I may so express it, was soon reduced to a lower standard than ordinary; so that after being some days in a temperature of -15° or -20° it felt quite mild and comfortable when the thermometer rose to zero"—that is, when it was 32° below the freezing point. On one occasion, speaking of the cold having reached the degree of -55° , he says: "Not the slightest inconvenience was suffered from exposure to the open air by a person well clothed, so long as the weather was perfectly calm; but in walking against a very light air of wind, a smarting sensation was experienced all over the face, accompanied by a pain in the middle of the forehead which soon became rather severe."

Englishmen, as a rule, bear up better against intense cold than against intense heat, one great reason being that the air is in such circumstances less tainted with the seeds of disease. They are then more lively and cheerful, feeling themselves necessitated to active and athletic exertion, and become, consequently, better able to combat the adverse influences of a low degree of temperature.

Frost-bites will be often found alluded to by the reader of the subsequent pages as among the unpleasant accidents of arctic travel. A frost-bite is caused by cold depressing the vitality of a part or the whole of the body. The frost-bitten part is at first blue and puffy in appearance, in consequence of the current of blood through it being suspended. Should the cold continue it becomes pallid. At first there is a painful tingling, which gives place to numbness and insensibility, and lastly to actual death or mortification.

The treatment of frost-bite consists in coaxing back by degrees the vitality of the part. This is best done by friction, at first with snow, and then with water at an ordinary temperature, no heat being applied for some time. As the cold subsides, the painful tingling returns; then comes heat and redness. In a little while the latter will be above the natural standard, and if not moderated the part will inflame and perhaps mortify.

As we are speaking of one of the bodily derangements to which arctic voyagers are liable, we may as well dispose here of another, and that is the terrible scourge of scurvy. This is caused by the want for a considerable time, of fresh succulent vegetables. It is an old disease, and its ravages, especially on board ship, used to be appalling. It is believed that more seamen used to perish from scurvy alone than from all other causes combined, whether sickness, tempest, or battle. Whole crews were prostrated by this scourge, as in the well-known case of Lord Anson's memorable voyage.

The way to effect a cure is to administer lemon-juice or fresh fruits and vegetables. Since the introduction of lemon-juice, cases of scurvy have become more and more uncommon. It was made an essential element of nautical diet in 1795.

CHAPTER II.

THE ARCTIC REGIONS (continued).

THE ESQUIMAUX—THEIR APPEARANCE AND HABITS—A FAVOURABLE ACCOUNT—WHALES AND WHALING—A SUCCESSFUL DAY'S SPORT—THE GREENLAND SHARK—THE SEA-UNICORN—THE WALRUS—CAPTURING WALRUSES—THE SEAL—A WEARY WATCH—SEAL OIL—THE POLAR BEAR—PROWLING ABOUT—THE MUSK OX—A DEATH STRUGGLE—THE REINDEER—THE ESQUIMAUX DOG—THE ARCTIC FOX—THE BIRDS OF THE POLAR REGIONS—A NORTH-POLE BIRD—PLANTS OF THE FAR NORTH—MAMMOTH BONES—ENORMOUS TREES—SLEDGE TRAVELLING.

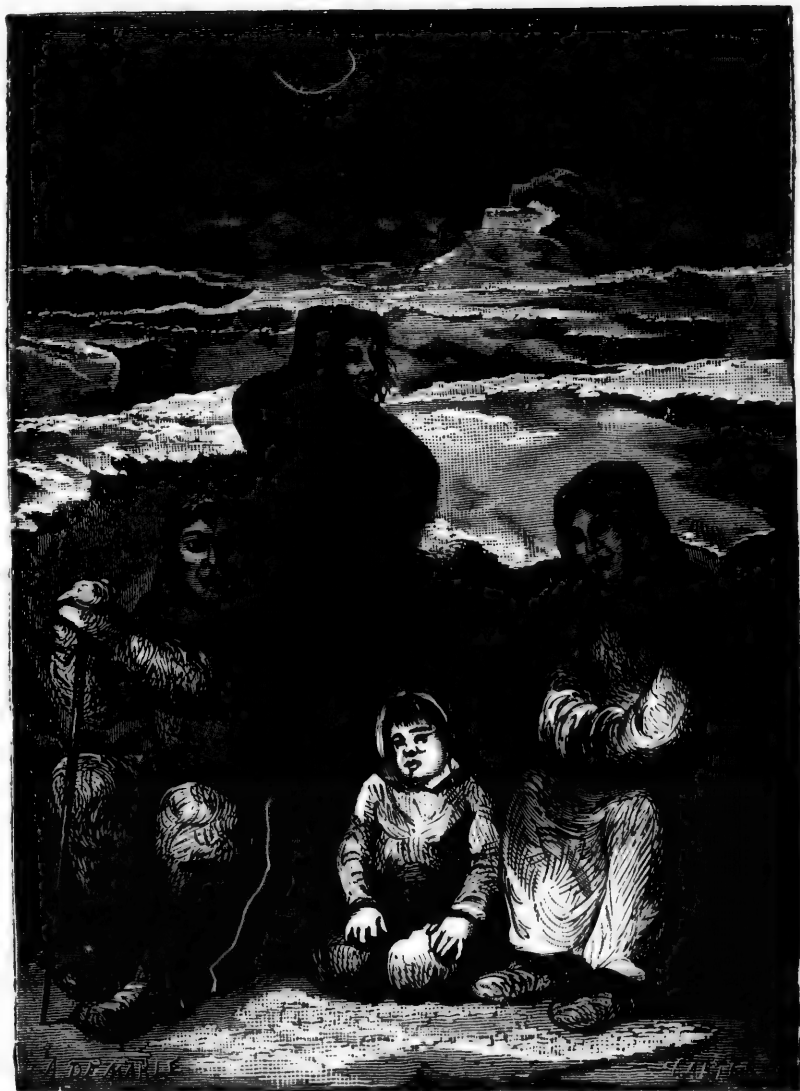
ONE would think that the inhospitable arctic regions were not likely to see any of the human race save as passing visitors. There are some, however, who make it their home. These are the Esquimaux or Eskimo. They inhabit the coasts of the American seas, bays, and islands north of latitude 60° N.—from the east coast of Greenland in longitude 20° E., to Behring's Strait, in longitude 167° W. On the Asiatic side of Behring's Strait they are also met with. Their numbers altogether are few, but they are certainly as wide-spread a nation as any in the world. According to one authority they occupy not less than 5400 miles of coast, without including the inlets of the sea.

The meaning of the name Esquimaux is, "eaters of raw flesh." This is not what they call themselves: they speak of themselves as "Inuit," or "people." The Scandinavians of the tenth century who did not deal in compliments, called them "Skrœllingar" or "wretches." The name given to them by the seamen of the Hudson's Bays ships was "Seymos" or "Suckemos," appellations, says Richardson, "evidently derived from the vociferous cries of Seymo or Teymo with which the poor people greet the arrival of the ships."

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OF ESQUIMAUX RACE.

Ice-World Adventures.]

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The stature of the Esquimaux is somewhat diminutive. They are broad-shouldered, and when sitting in their boats look tall and muscular; but when standing on shore they lose some of their height from the shortness of their lower extremities.

As to the complexion of the Esquimaux, it is difficult to say anything definite. Some report it to be brown, but Sir John Richardson describes it as nearly white, when relieved of the smoke and dirt with which it is usually incrustated. "The young men," says the same authority, "have little beard, but some of the old ones have a tolerable show of long grey hairs on the upper lip and chin. The Esquimaux beard, however, is in no instance so dense as a European one."

The little villages in which they reside on their long lines of coast usually contain five or six families each. The business of the men is hunting; domestic drudgery falls to the lot of the women. The household labour of the latter is not much, perhaps, after all; it consists chiefly in preparing the food, of which both sexes consume an enormous quantity. Almost all that is eaten is animal food, the hunters making considerable havoc amongst reindeer, seals, walruses, geese and other birds, and various kinds of fish.

When whales are plentiful, August and September are given up by the Esquimaux to their capture. When any are caught there are great manifestations of joy. It is from the whale blubber that the oil for the long winter months is made.

The habits of the Esquimaux are filthy and revolting to European tastes. A great part of their food is consumed without any attempt at cooking it, and the blood of newly-slaughtered animals is drunk as the greatest possible delicacy. In summer, those who can afford it live in tents; but in winter all equally huddle together in snow huts, the atmosphere of which, from the offal with which they are

stored and the filthy oil used for illumination, is neither describable nor to be readily imagined.

In all fairness to the Esquimaux, however, we must add a decidedly favourable account of them given by Admiral Sherard Osborn.

"The Esquimaux," he says,—speaking of some of whom he had had personal experience,—“appeared all comfortable and well-to-do, well clad, cleanly, and fat. Most of them had moved for a while into their summer lodges, which consist of little else than a sealskin tent, clumsily supported with sticks. They were more than sufficiently warm, and the number of souls inhabiting one of these lodges appeared only to be limited by the circle of friends and connections forming a family.

"The winter abode—formed almost underground—appeared decidedly well adapted to afford warmth and some degree of pure ventilation in so severe a climate, where fuel can be spared only for culinary purposes, and I was glad to see that, although necessity obliges those Esquimaux to eat of the oil and flesh of the seal, yet, when they could procure it, they seemed fully alive to the gastronomic pleasures of a good wholesome meal of fish, birds' eggs, bread, sugar, tea, and coffee.

"Their canoes are perfect models of beauty and lightness; in no part of the world do we see them excelled in speed and portability—two very important qualities in the craft of a savage—and in ornamental workmanship the skill of both men and women is tastefully displayed.

"The clothing of the Greenland Esquimaux is vastly superior to anything we could produce, both in lightness of material and wind and water qualities—the material, seal and deer skin and entrails, manufactured by the women; their needles of Danish manufacture; their thread the sinews of animals.

"Every one has heard of the horrors of an Esquimaux existence—sucking blubber instead of roast beef, oil their

usual beverage, and a seal their *bonne bouche*, the long gloomy winter spent in pestiferous hovels, lighted and warmed with whale-oil lamps; the narrow gallery for an entrance, along which the occupant creeps for ingress or egress. This, and much more, has been told us; yet, now that I have seen it all, the Esquimaux home, the Esquimaux's mode of living, and the Esquimaux himself, I see nothing so horrible in one or the other.

"The whaler from bonnie Scotland or busy Hull, fresh from the recollections of his land and home, no doubt shudders at the comparative misery and barbarity of these poor people; but those who have seen the degraded Bushmen of South Africa, the miserable Patanies of Malaya, the Fuegians of our southern hemisphere, and remember the comparative blessings afforded by climate to these melancholy specimens of the human family, will, I think, exclaim with me, that the Esquimaux of Greenland are as superior to them in mental capacity, manual dexterity, physical enterprise, and social virtues, as the Englishman is to the Esquimaux.

"The strongest symptoms perceptible in the Greenlanders of the advantage of the religious instruction afforded by the Moravian missionaries is in the respect they show for the marriage-tie, and strong affection for their children. The missionary with this race appears to have had few difficulties to contend with—naturally gentle, and without any strong superstitious prejudices, they received without resistance the simple creed of reformed religion which he has spread amongst them."

"The Esquimaux," says Dr. Latham, "is the only family common to the Old and New World; an important fact in itself, and one made more important still by the Esquimaux localities being the only localities where the two continents come into proximity."

The principal production of the Arctic Ocean is the whale. The great Greenland whale is the one most sought

for by the whalers of Baffin's Bay, for besides being commoner than its big brother the spermaceti whale, it yields a much greater amount of oil, though that of a spermaceti whale, as its name implies, is mixed with the substance called spermaceti, and is therefore the more valuable.

The razorback whale is much larger than the great Greenland whale, but is a very powerful monster, so much so that the arctic hunters, as a rule, fight shy of it. There are various other kinds of whale of a smaller description, among which we may mention the broad-nosed whale, the beaked whale, and the finner, whic' are sometimes found off Norway and Shetland; but as they do not yield much oil, they are not thought worth the killing. The white whale is so shy an animal that it can seldom be killed with either a rifle ball or harpoon, and is therefore generally captured by means of a net. At that part of Baffin's Bay, however, where the Clay River runs in and greatly discolours the water, giving it a thick muddy appearance, great success is said to attend the white whale fishing in the autumn, when these animals migrate southwards, having been north evidently to breed, as they return accompanied by numbers of young "calves." As whales live on sea blubber, they are generally found in the green water. In winter they go south, but where is unknown.

The Esquimaux mode of whaling is very primitive. "An omaiak," says one writer, "or woman's boat, is manned by females, having as harpooner a chosen man of the tribe; attending on this craft are a number of *kayacks*, or single-man canoes.

"The harpooner singles out a fish, and drives into its flesh his weapon, to which is attached, by means of a walrus-hide thong, an inflated sealskin. The wounded fish, hampered by the inflated skin, and forced to rise to breathe in a small area of water, is then incessantly harassed by the men in the *kayacks* with weapons of a similar description, a number of which, when attached to the whale, baffle

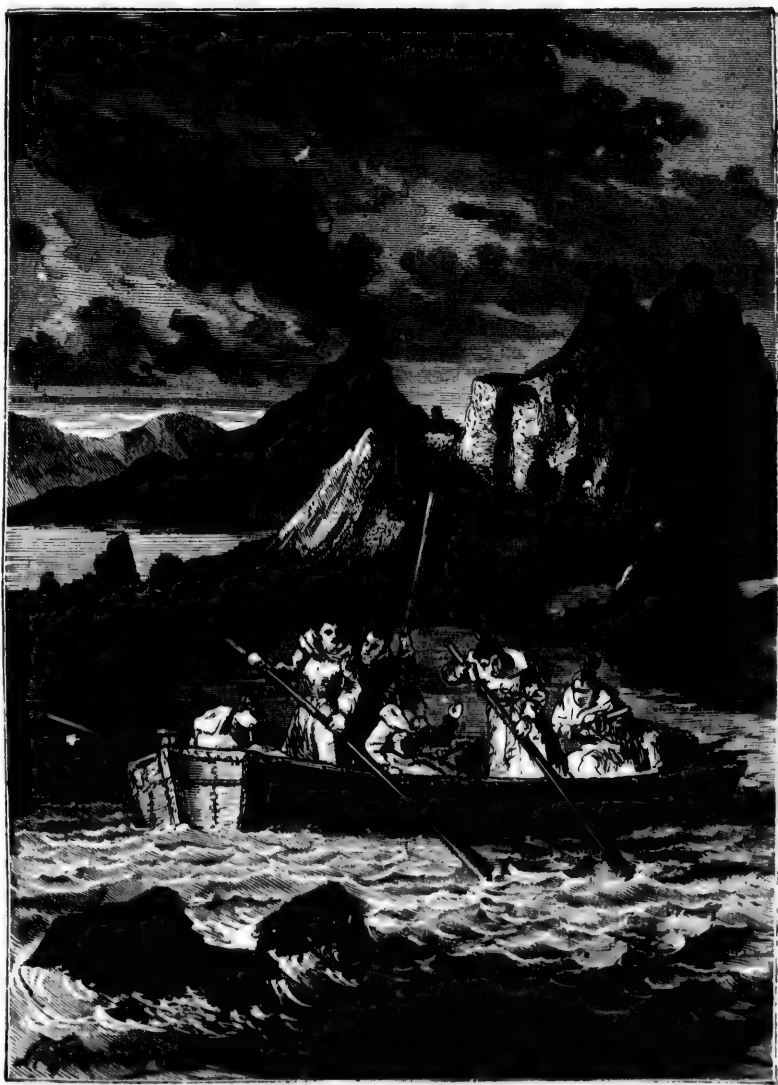
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A GREENLAND OMAIAK OR WOMAN'S BOAT.
Ice-World Adventures.]

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its efforts to escape and wear out its strength, until, in the course of a day, the whale dies from sheer exhaustion and loss of blood.

"The harpooner, after a successful day's sport, is a very great personage, and invariably decorated with the Esquimaux order of the Blue Ribbon; that is, he has a blue line drawn across his face over the bridge of his nose. This is the highest honour known to the heroes of Cape Bathurst; but to it is attached also the happy privilege of the decorated individual being allowed to take unto himself a second wife. Great orgies occur upon such occasions; and, if all tales be true, it is to be feared that morality is at rather a low ebb in these latitudes."

The mode of capturing the whale by the whaling ships, which every year frequent these high latitudes, has been so often described, that we may well be excused from entering upon it. There is indeed no essential difference between the way in which the capture of whales is prosecuted by the rudest tribes and that followed by the most civilized nations.

In its simplest form the harpoon is an iron spear about five feet long, with a much flattened point, having sharp cutting edges and two large flattened barbs. Many modifications have been introduced, the most important, perhaps, being the gun harpoon, of which we have given a representation in one of our engravings.

The Greenland shark is an interesting creature, which, when full grown, attains a length of about fourteen feet. It tapers suddenly at the tail, and the fins are very small. Its favourite occupation is to bite and annoy whales. Even when a whale has been killed a shark often makes its appearance whilst the men are engaged in cutting off the blubber. It will scoop out one great lump after another from the whale, and will return to its repast after being severely wounded.

The Esquimaux are in the habit of catching sharks both

with nets, baited with salt meat, and with a hook and line. They are hunted for the sake of the oil which is expressed from their livers, and for a substance very much like spermaceti which is obtained under pressure from their flesh. Sir Leopold M'Clintock says the Esquimaux assert that the shark is insensible to pain, and that Petersen, who was his interpreter in the voyage of the *Fox*, related how he had plunged a long knife into the head of one which was feeding on a white whale entangled in his net, but that the brute continued its repast notwithstanding. As Sir Leopold remarks, it must be remembered that the brain of a shark is extremely small compared with the size of its huge head, and he says that he himself has seen bullets fired through them with very little apparent effect; but that if these creatures can feel, the devices practised upon them by the Esquimaux must be cruel indeed. The dogs of the hunters are not allowed to eat either the skin or the head, the former being very rough, and the latter producing giddiness and sickness.

Narwhals, or sea-unicorns, so called from the horn which projects from the upper jaw, are seen in great numbers in Baffin's Bay during certain seasons, especially just before they begin to travel northwards in March. Their flesh is considered a great luxury by the Esquimaux, as also is the skin, which acts as an anti-scorbutic. The object of the horn is a disputed topic; for while its point is too blunt for offence, it is well polished for about four inches, and the rest usually covered with slime and seaweed, so that it is conjectured that it must be employed either to root up food from the bottom of the sea, or else to drive out small fish from the clefts and fissures of broken ice, where they take refuge when pursued.

The walrus, morse, or sea-horse, is another inhabitant of the arctic seas. It has been very accurately and amusingly described by De Veer, an early writer of northern voyages.

"The sea-horse," he says, "is a wonderful strong monster of the sea, much bigger than an ox, which keeps continually in the seas, having a skin like a sea-calf or seal, with very short hair, mouthed like a lion; and many times they lie upon the ice. They are hardly killed unless you strike them just upon the forehead. It hath two feet, but no ears, and commonly it hath two young ones at a time. And when the fishermen chance to find them on a flake of ice with their young ones, she casteth her young ones before her into the water, and then takes them in her arms, and so plungeth up and down with them. And when she will revenge herself upon the boats, or make resistance against them, then she casts her young ones from her again, and with all her force goeth toward the boat. Whereby our men were once in no small danger, for that the sea-horse had almost stricken her teeth into the stern of their boat, thinking to overthrow it, but by means of the great cries that the men made she was afraid, and swam away again, and took her young ones again in her arms. They have two teeth sticking out of their mouth, one on each side, each being about half an ell long, and are esteemed to be as good as any ivory or elephant's teeth."

The capture of walruses is one of the chief pursuits of the natives of Greenland during the winter months.

These animals, though able to take in a sufficient quantity of air to last them for a considerable time, still have to come up occasionally to breathe, and it is this circumstance of which the hunter takes advantage. The walrus only rises at the edge of the floe in open water, and is hunted with spears, to which are attached lines carrying inflated sealskins, intended for the double purpose of impeding the animal in diving, and of preventing the loss of the spear. The Esquimaux are so very venturesome in hunting this animal, that they will even go out on floating pieces of ice after it.

We come now to speak of the seal. The common seal

is found in great numbers in the northern parts of the Atlantic and in the Arctic Ocean. It is from three to five feet long, and is clothed with a yellowish fur, variously spotted and marked with brown. It is usually seen in small herds.

The Esquimaux mode of hunting the seal is very curious. The seal, when it can find an open piece of water, will burrow up through the ice to get to the air, making a small hole on the surface of much the same size and appearance as a molehill. The manner of taking them requires a considerable amount of patience and endurance, for when a hunter hears a seal at work under the ice, he first builds a snow wall, some four feet high, to protect him from the wind, and then sitting down to leeward of it proceeds to wait for the seal to reach the surface—a weary watch, which sometimes extends to twelve hours.

When by the seal's blowing the hunter knows that it is close to the surface of the ice, he takes his spear in both hands and drives it down into the animal with all his might, having previously fastened the rope attached to it round his body. He has only then to cut away the thin ice all round to get the carcass out. Another way of killing seals is by approaching them under cover of a small white screen, mounted on a little sledge, which is pushed by the sportsman before him. In this manner they can be approached within easy distance; but of course, as in this case, they must be either in the water or upon the surface of the ice, and as during the depth of winter there is little open water likely to be found near the ships, this plan will not be practicable then. In shooting them with a rifle care must be taken to hit them in the head, as otherwise they will escape under the ice if only wounded in the body.

The Esquimaux practise numerous devices to attract seals; such as scraping the ice, so as to produce a similar noise to that made by the seal with its flippers, and placing one end of a pole in the water and putting their mouths

close to the other end, and making noises in imitation of those made by the animals themselves. When they are in good condition and shot instantaneously they will float but this depends upon their feeding-ground.

On one occasion, when some specially fine seals had been shot by Sir Leopold M'Clintock's party, they dredged the bottom, and found shell-fish and star-fish, and on another occasion the bellies of some splendid seals were found full of shrimps. Although the flesh of the female seal is good to eat all the year round, during March that of the male is very fetid, having a disagreeable flavour like garlic, which impregnates the whole body to such an extent, that even the Esquimaux, who do not generally appear to be very choice in their food, cannot quite manage to relish it.

The oil of seals is very valuable for dressing jute and vegetable fibre, which is used largely to manufacture various kinds of domestic goods. The seal oil from Jan Mayen alone is worth about £250,000 a year.

The number of vessels engaged in the seal fishery is accurately known. From Norway there are 27, of which 12 are steamers. There are 20 steamers and a few sailing vessels from England; 5 steamers from Germany; 2 from Sweden; and one sailing vessel from Holland. In all there are 60 vessels, on board of which Norway alone has 2000 men.

So much for seals; now we shall speak of bears.

The arctic bear, or polar bear, is distinctly characterized amongst bears by his flat head and comparatively long neck. His fur is smooth and white. He is the only sort of bear of strictly marine habits, never being found far from the sea. His haunts are the northern shores of Asia and America, Spitzbergen, etc., where he pursues seals both in the water and upon the ice, and preys upon fish and birds.

"I cannot," says Sir Leopold M'Clintock, "let slip this opportunity of saying a few last words about our old acquaintance the polar bear.

"When we find him roaming over fields of drifting ice more than a hundred miles from land, we are filled with wonder; when there is no ice, we find him swimming off to our ships two, three, or more leagues, and we are scarcely less astonished. Arctic blue-books contain the official diaries of more than an hundred sledge-journeys, and in these the ubiquitous bear is constantly mentioned.

"It is only when wounded or pressed by extreme hunger that the polar bear becomes fierce: as a rule he endeavours to avoid both men and dogs; therefore our plan was to lie down and remain quite still; the bear would then cautiously approach, sheltering himself from view as long as possible. Polar bears, hares, and foxes sometimes stand erect to reconnoitre, and I once shot a bear in this attitude; had I hesitated for a second or two, he would have completed his survey of us, and would probably have cautiously and safely retreated as he had advanced, by keeping behind hummocks of ice. In all our adventures with bears not previously acquainted with man, we found them to be inquisitive, timid except when hungry, and somewhat stupid, although in the capture of their prey they display a degree of instinct almost akin to reason; their endurance of cold, hunger, and fatigue, and their acute sense of smell, are quite extraordinary. They are perpetually roaming over the ice across the direction of the wind, scenting out the breathing holes of the seals. More than one officer records seeing the bear scrape away the snow, and enlarge the breathing hole of a seal with his claws, or break the ice by jumping up into the air and alighting with his whole weight on his fore-paws; and, when sufficiently enlarged, he would lie down beside the hole, and patiently watch for the doomed seal to pop up—almost between the paws of his wily enemy. These seal holes enlarged by bears have frequently been noticed."

The musk ox, from a natural history point of view, is a sort of connecting link between the ox and the sheep. It

is found in the most northern parts of America, enduring the winter even of Melville Island and Banks's Land. It is partially migratory in its habits. Its flesh is much prized by the Esquimaux, though it retains much of the strong musky odour which characterizes the living animal. It is by no means a cowardly creature.

A very exciting account of the shooting of two musk bulls on one occasion is given by one arctic explorer.

"We saw and shot," he says, "two very large musk-bulls. . . . I shall never forget the death-struggle of one of these noble animals; a Spanish bull-fight gives no idea of it, and even the slaughter of the bear is tame in comparison. This animal was shot through the lungs, and blood gushed from its nostrils upon the snow. As it stood fiercely watching us, prepared, yet unable to charge, its small but fixed glaring eyes were almost concealed by masses of shaggy hair, and its whole frame was fearfully convulsed with agony; the tremulous motion was communicated to its enormous covering of tangled wool and hair; even the coarse thick mane seemed to rise indignant, and slowly waved from side to side. It seemed as if the very fury of its passion was pent up within it for one final—a revengeful—charge. There was no roaring—the majestic beast was dumb; but the wild gleam of savage fire which shot from its eyes, and its menacing attitude, was far more terrible than the most hideous bellow. We watched in silence, for time was doing our work, nor did we venture to lower our guns until, its strength becoming exhausted, it reeled and fell."

There are few animals of the arctic regions more popular than the reindeer. It is by far the most valuable and important of all the species of deer, and the only one which has been thoroughly domesticated and brought into service by man.

In appearance the reindeer is rather a heavy-looking animal. It has comparatively short and stout limbs. The

tail is very short, and the neck is carried almost straight forward. Both sexes have large horns. These it is said to use to remove the snow from the lichens, which form a great part of its winter food.

To the Laplander the reindeer constitutes the most valuable item of his possessions. Many Laplanders own herds of two thousand and upwards. The flesh is excellent, and so is the milk, which is much in demand. The reindeer is also extremely valuable as a beast of draught, for which purpose he is harnessed to sledges. It can keep up a speed of nine or ten miles an hour for a long time, and can easily draw about two hundred pounds in addition to the sledge.

In North America it is merely an object of chase, valued for its flesh, fat, and hide. The flesh and fat are not only eaten in a fresh state, but made into pemmican.

The Esquimaux dog is an animal to be met with extensively in the most northern regions of North America and eastern Asia. It is large and strong. Its hair is long and rather curling; the tail is very bushy and much curved over the back; the ears are short and pointed, and the general aspect is rather wolfish. The colour is generally black and white, brown and white, or dingy white. The Esquimaux dogs are much used for drawing sledges. They are not only sagacious, but docile and patient.

The arctic fox is a much smaller creature than the common fox. Its colour in winter is pure white, at least in very cold climates; in summer it is brownish or bluish tinge. Its flesh has been seen eaten by arctic voyagers. Their relish for it was no doubt begotten of a keen appetite and the dread of starvation perhaps if they let it alone.

There are hares also in the polar regions. They are entirely white in winter, and brownish grey in summer. They are considerably larger than the common hare, and spend the whole year in the cold desolate regions of Melville Island and such-like uncomfortable haunts.

The polar regions are the native haunt of many geese, ducks, and aquatic birds. The Canadian goose is the only North American member of that genus which breeds beyond the arctic circle, and many bands even of them travel as far as 68° , while the barnacle, brent, laughing-goose, and snow-goose go to the extreme north to breed. Ptarmigans and dovebies may be said to be constant residents in the highest latitudes; but the bulk of both these species go southwards for their winter food, though a few dovebies linger behind in the open pools of the polar sea. The raven and snowy owl are the only birds of prey which find food within the arctic circle in the winter time.

There is another class of birds which it would be unpardonable to omit mentioning in connection with the polar regions. This is the knot—the *Tringa Canutus* of ornithologists. The knot is something halfway between a snipe and plover. Like many other kinds of birds belonging to the same group, the colour of its plumage varies most wonderfully according to the season of the year. In summer it is of a bright brick red; in winter it is of a sober ashy grey. Professor Newton has given a very interesting account of its movements, and from them drawn an inference regarding the climate of the hitherto unreached district round the North Pole. This fact warrants our giving an amount of space to the knot quite out of proportion with its size. "The knot," he says, "comes to this country in vast flocks in spring, and after remaining on our coasts for about a fortnight, can be traced proceeding gradually northward till it takes its departure. People who have been in Iceland and Greenland have duly noted its appearance in those countries; but in neither of them is it known to tarry longer than with us—the summer it would there have to endure is not to its liking; and as we know that it takes no other direction, it must move farther north. We then lose sight of it for some weeks. The older naturalists used to imagine it had been found breeding

in all manner of countries, but the naturalists of the present day agree in believing that we know nothing of its nidification. Towards the end of summer back it comes in still larger flocks than before, and both old birds and young haunt our coasts till November; if the season be a very open one, some may stay later; but our winter, as a rule, is too much for it, and away it goes southward, and very far southwards, too, till the following spring. What has been said of the knot in the United Kingdom is equally true of it on the eastern shores of the United States. There it appears in the same abundance, and at the same seasons as with us, and its movements seem to be regulated by the same causes.

"Hence we may fairly infer that the lands visited by the knot in the middle of summer are less sterile than Iceland or Greenland, or it would hardly pass over those countries, which are known to be the breeding places of swarms of water birds, to resort to regions worse off as regards supply of food. But the supply of food must depend chiefly on the climate. The inference necessarily is that, beyond the northern tracts already explored there is a region which enjoys in summer a climate more genial than they possess. It would be easy to summon more instances from the same group of birds, tending to show that beyond a zone where a rigorous summer reigns there may be a region endued with a comparatively favourable climate."

The total number of plants that grow in the arctic regions is comparatively trifling. In the short summer, however, there is a wonderful profusion of flowers to be seen in the chinks of the rocks. It may be remarked, by the way, that arctic plants as a rule have their flowers larger than one would expect, judging from the size of the leaves and stems.

Speaking of the existing flora of Greenland, Dr. Hooker has pointed out that it possesses features of unusual interest. It consists of some three hundred kinds

of flowering plants, besides a very large number of mosses, algæ, lichens, etc. A botanist who visited Greenland not many years ago found no fewer than 129 species of flowering plants and ferns within the circuit of Disco Bay alone, besides more than 200 species of the lower orders (sea-weed, lichens, mosses, and suchlike).

It is said that within the arctic circle there have been found altogether over eight hundred different species of flowering plants and ferns.

Within the greater part of this northern territory there are no trees. In Greenland the largest species found are the dwarf birch, juniper, and willow, creeping along the ground. In Siberia, the tree-limit, it has been observed, "extends much farther north than in America, trees being found even in 70° N. lat., though in the same parallel—the shores of Davis's Strait—the whole country is bare of anything approaching to a tree, the largest plant of the kind, the dwarf birch (*Betula nana*), not exceeding the size of a soup plate."

On the side of east Siberia the Arctic Ocean produces a remarkable article of traffic. Here are found in greatest abundance the bones of the mammoth. Spring after spring the alluvial banks of the lakes and rivers crumbling under the thaw, give up as it were, their dead; while the islands lying off the Yana, and even the depths of the sea itself teem with these mysterious memorials of antiquity.

The American half of the Arctic Ocean cannot boast of fossil ivory, but it can show something still more difficult to be explained. In latitude $74^{\circ} 25'$, and latitude $76^{\circ} 15'$ respectively, Captain McClure and Lieutenant Meham found large deposits of trees of considerable size, and to all appearance indigenous. Writing of Banks's Island, Captain McClure has the following passage:—"From the summit of these hills, which are three hundred feet high, to their base, abundance of wood is to be found; and in many places layers of trees are visible, some protruding twelve

or fourteen feet, and so firm that several people may jump on them without their breaking. The largest trunk yet found measured one foot seven inches in diameter, equivalent in girth to about five feet." Again Captain McClure says: "I entered a ravine some miles in length, and found the north side of it, for a depth of forty feet, composed of one mass of wood." Writing of Prince Patrick Island, Lieutenant Meham has the following passage: "Discovered buried in the east bank of the ravine, and protruding about eight feet, a tree of considerable size. During the afternoon I found several others of a similar kind: circumference of first and second tree seen three feet; of another two feet ten inches. From the perfect state of the bark and the distance of the trees from the sea, there can be but little doubt that they grew originally in this country. I sawed one through; it appeared very closegrained, and was so immensely heavy, that we could carry but little of it away."

We shall close this chapter by a few remarks on travelling in the polar regions. Sledge travelling has been brought to a high state of perfection, and for its improvement of late years we are chiefly indebted to Sir Leopold M'Clintock. From a paper read by that eminent arctic explorer before the Royal Geographical Society, we have drawn the following information.

"Whereas all other geographical discoveries are performed either by land or by water, modern arctic exploration into the higher regions of the frigid zone is prosecuted independently of either, and the ice, which arrests the progress of the ship, forms the highway for the sledge.

"In early arctic voyaging, the ship alone was relied upon for penetrating into unknown seas. In the second and third voyages of Parry, and the second voyage of Sir John Ross, sledging was commenced, and a number of short journeys were made, mainly by the assistance of the Esquimaux, whose methods were closely observed and



SLEDGE TRAVELLING.

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Ice-World Adventures.

more or less imitated. But seamen had not yet familiarised themselves with the idea that it was quite possible for well equipped Europeans, not only to exist, but to travel in an arctic climate as well as the Esquimaux themselves; and it was not until the Franklin searching expeditions were sent out, between 1848 and 1854, and a motive far stronger than that of geographical discovery was supplied, that men seriously reflected upon the possibility of any extensive exploration on foot.

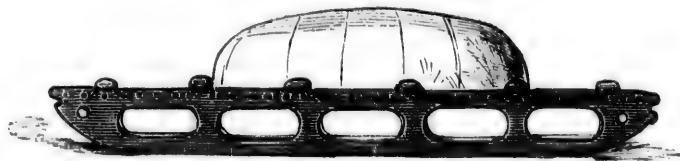
"Sledge travelling is limited to the spring months. It cannot be commenced until there is sufficient daylight; it cannot be continued after the summer thaw has denuded the land of snow, or rendered the sea ice unsafe, therefore it can seldom be prosecuted with advantage before the month of April or later than June. It was under the direction of the late Admiral Sir John Ross, the distinguished commander of the antarctic expeditions from 1818 to 1834, that the arctic sledges and tents were made in 1848; and these designs, with comparatively slight modifications, have continued in favour in all subsequent expeditions.

"The sledge which experience has proved to be the most suitable is a large runner sledge. The runners are rather broad—three inches—and they stand high, carrying the baggage about a foot over the ice. An average-sized sledge is three feet wide and ten feet long, and is drawn by seven men. It is constructed with only just as much strength as is absolutely necessary, since every pound of weight saved in wood and iron enables so much more of provisions to be carried. It must be borne in mind that arctic work is not merely marching, but that a sledge, often heavily laden, has to be dragged the entire distance. The clothing of the men is a subject of difficulty and importance, and must be suited to the temperature under which they travel.

"In the Government searching expeditions sufficient

experience of sledging with dogs was gained to prove their value. During the spring of 1854 their only team of dogs was kept constantly at work, and without counting occasional short trips, they accomplished in sixty days' travelling 1,830 miles, affording an average rate of thirty miles,—their sledge, on the whole, being lightly laden. In the spring of 1859 there were sent out from the *Fox* three divisions of search, each consisting of six men and six or seven dogs. Each division accomplished about 1,000 miles of distance, and men and dogs worked harmoniously together for the lengthened period of nearly eighty days. Dogs are most useful when despatch is required, or when the temperature is so low that it is undesirable to expose more men than is absolutely necessary."

To sledging we are indebted for almost all modern arctic achievements. To it we may confidently look as a means of escape when neither ships nor boats can avail. "It is now a comparatively easy matter," says Sir Leopold M'Clintock, "to start with six or eight men, and six or seven weeks' provisions, and to travel some six hundred miles across snowy wastes and frozen seas, from which no sustenance can be obtained. There is now no known position, however remote, that a well equipped crew could not effect their escape from by their own unaided efforts."



A HEAVY SLEDGE FOR SHORT DISTANCES.

CHAPTER III.

ICELAND, GREENLAND, AND NEWFOUNDLAND.

A SCANDINAVIAN PIRATE DISCOVERS ICELAND—THE FIRST COLONISTS—THE DISCOVERY OF GREENLAND BY ERIC THE REDHEAD—EXPLORATION TO THE WESTWARD—RELIGION AND LITERATURE AMIDST FROST AND FIRE—THE GREENLAND COLONIES—THE FATE OF THE EASTERN COLONY—JOHN CABOT DISCOVERS NEWFOUNDLAND—THREE SPECIMEN NEWFOUNDLANDERS—SIR HUMPHREY GILBERT'S EXPEDITION IN 1583—TAKING POSSESSION IN THE QUEEN'S NAME—THE LOSS OF A SCHOLAR—A BRAVE END.

A SCANDINAVIAN pirate was on his way to the Faroe Islands in the year 861, when an easterly gale arose and lasted for several days. It drove him so far to the westward that he fell in with an island utterly unknown to him. From the great quantity of snow on the mountains he gave it the name of Snowland.

Three years afterwards, a Swede called Gardar Suaffarson undertook a voyage to this newly discovered island. He spent the winter there, and on his return home the following year gave such a glowing description of its fair woods and fertile soil, that one Flokko, or Flocke, was induced to try his fortune also on Snowland for a winter. As fogs were frequent in these northern seas, and the mariner's compass was then unknown, Flokko carried one—or as some say four—ravens with him. By letting these loose in the midst of the ocean he ascertained the direction of the land he was in search of. He appears to have been of a discontented disposition, for whilst some of his companions found Snowland quite a pleasant island to winter in, he carried home a very uninviting account of it. From the severity of the weather, and the quantities of drift-ice which filled the northern bays, he changed its name to Iceland, which it ever after retained.

No attempt was made towards a regular establishment on Iceland till the year 874, when one Ingolf, and his friend Leif, or Hiorleif, dissatisfied with the arbitrary rule of Harold Harfagre, king of the Norwegians, determined to abandon their country, and seek an asylum in Iceland. On approaching the island, Ingolf, conformably with an ancient superstition of his country, threw a wooden door overboard, determining to make his first landing on that part of the coast to which the gods should direct this floating guide; but the current having carried it away out of sight, he landed in a fiord or gulf on the southern part of the island.

The report of their arrival having reached Norway, a number of families, taking with them their cattle, furniture, and implements of husbandry, embarked for this new colony, with a view to establishing their future residence there.

It is mentioned as a fact in the Iceland annals, whose authenticity has rarely been called in question, that these early Norwegian colonists were fully persuaded that the island had been inhabited before their coming there; as wooden crosses, bells, and even books, were found near the shore, such as were then in use in Britain and Ireland. The distance is so short from Ireland, that it is not improbable that some of its fishermen might have been driven thither, and left behind them these relics of Christianity, or some of the Norman pirates, after plundering Ireland, may have directed their course to the westward, and left there these articles of their booty.

Towards the close of the 10th century, a man of the name of Thorwald, being obliged to fly on account of a murder, set sail for Iceland. His son, Eric the Redhead, having also been guilty of murder and many irregularities, soon followed. The latter set out from thence on an expedition to the westward in 982, and fell in with that part of the east coast of Greenland called Herjolf's Ness, and

standing to the southward entered a large inlet, which was called by him, or after him, Eric's Sound. He passed the winter on a pleasant island in this sound, explored the coast in the following year, and in the third year returned to Iceland; and by a lively description and the most lavish praises of its green and pleasant meadows, and the abundance of fine fish on the coast, he induced a number of settlers to accompany him to this newly discovered country, to which, in comparison of its appearance with Iceland, he gave the name of Greenland. "It was a green land, a fair country, greener than Iceland," he loudly proclaimed in alehouse and market place. "The fact is," remarks one writer, "in his own small way this banished Icelandic viking was a 'promoter' of a joint-stock company for colonization, and knew as well as anybody within the city of London or elsewhere what was in a name. 'For,' quoth he, 'if the land have a good name, it will cause many to go thither.'"

This was not, however, if tradition is to be credited, the first discovery of Greenland: it is said to have been discovered about the close of the ninth century by an Icelander named Gunbiorn, who called it Huidsærk, or "White Shirt," from its snowy appearance.

The Norwegians and Normans flocked in great numbers to Iceland, and a regular trade began between the colonists and the mother country. About the year 1001, one of the colonists, Herjolf, and his son Biorn, were on a trading voyage. Their ships were separated by a storm. Biorn was driven to Norway, and there he soon afterwards learned that his father had gone to Greenland. He therefore set sail and proceeded westwards, intending to join him, but being driven by a storm a great way to the southwest, he discovered, by chance, a fine plain country well clothed with wood.

The relation which he gave of this new discovery, on his return to Iceland, inflamed the ambition of Leif, the son of

Eric, who had founded the colony on the coast of Greenland. He immediately equipped a proper vessel, and taking with him his friend Biorn, they proceeded together in quest of the newly discovered land.

On approaching the coast they observed a barren and rocky island, which they therefore named *Helleland*; and to the low sandy shore beyond it, which was covered with wood, they gave the name of *Markland*. Two days after this they fell in with a new coast of land, to the northward of which they observed a large island. They ascended a river, the banks of which were covered with shrubs, bearing fruits of a most agreeable and delicious flavour. The temperature of the air felt soft and mild to the Greenland adventurers; the soil appeared to be fertile, and the river abounded with fish, and particularly with excellent salmon. On proceeding upwards, they discovered that the river issued from a lake, near which they resolved to pass the winter. On their return, they mentioned, among other things, that, on the shortest day, the sun was visible above the horizon eight hours; and that a German, who was one of the crew, had met with wild grapes. The latter fact induced them to call the island Vinland.

Whether we are to consider Vinland as Labrador or Newfoundland is a matter of little importance, as the Scandinavians do not appear to have made any progress in the colonization of either country. These northern hordes, however, flourished with great rapidity on Iceland, in spite of its barren soil and rigorous climate. Religion and literature even took deep root where every luxury and frequently the common necessities of life were wanting. The genius of native poetry survived amidst eternal ice and snows. The want of shady groves and verdant meadows, of purling streams and gentle zephyrs, was amply supplied by the more sublime and awful objects of nature,—storms and tempests, earthquakes and volcanoes, spouts of liquid fire and of boiling water, volumes of smoke and steam and

ashes darkening the air and enveloping the whole island, were the terrific visitors of this *ultima thule* of the inhabitable world. "The scalds or bards," says Pennant, "retained their fire in the inhospitable climate of Iceland as vigorously as when they attended on their chieftains to the mild air of Spain or Sicily, and sang their valiant deeds."

The Greenland colonies were less fortunate. On the east and the west coasts the ancient Scandinavians had established colonies. That on the west had progressively increased until it could boast of four parishes, containing one hundred villages; but being engaged in perpetual hostility with the native tribes, in possession of this territory and of the neighbouring islands, to whom they gave the name of Skroelings, but who have since been known by that of Esquimaux, the colony on that side would appear to have been ultimately destroyed by these hostile natives. The ruins of their edifices were still visible in 1721.

The fate of the eastern colony was, if possible, still more deplorable. From its first settlement by Eric the Redhead in 983 to its most flourishing period it had steadily increased in population, and by the latest accounts consisted of twelve parishes, one hundred and ninety villages, a bishop's see, and two convents.

About 1406 a stream of ice fixed itself to the coast, and rendered access impossible, and from that period no intercourse whatever was held with the unfortunate colonists. In the middle of the sixteenth century an Icelandic bishop, when on his way to Norway, happened to be driven by a storm near the east coast of Greenland: he got so near as to be able to distinguish the inhabitants driving their cattle in the fields. A favourable wind, however, springing up, the worthy bishop soon left Greenland far behind.

There has been much dispute about the situation and ultimate fate of this eastern colony. According to some they perished by the black death in the fifteenth century,

a fact which it would be hard to harmonize with the statement of the Icelandic bishop just mentioned. But, at this time of day the subject is hardly worth arguing about.

Time went on, and we arrive at the close of the 15th century, when John Cabota or Cabot, a citizen of Venice, came over to England with his son Sebastian, then a boy (besides two other sons), and settled in Bristol. Being a skilful pilot and intrepid navigator, Henry VII., disappointed in the hope of engaging Columbus, through the misfortunes of his brother Bartholomew, encouraged Cabot to make discoveries by granting him a patent, in virtue of which he had leave to go in search of unknown lands, and to conquer and settle them; the king reserving to himself one fifth part of the profits. The patent bears date the 5th March, 1496, being the eleventh year of Henry's reign, and is granted to him by name, and to his three sons, Lewis, Sebastian, and Sancius.

There is a sad disagreement in the date of the voyage in which Newfoundland is supposed to have been discovered; and there is no possible way of reconciling the various accounts collected by Hakluyt, and which amount to no less a number than six, but by supposing John Cabot to have made one voyage, at least, previous to the date of the patent, and some time between that and the date of the return of Columbus.

The father and son jointly, in their first voyage, discovered Newfoundland, to which they gave the name of *Prima Vista*, "the first seen." They describe the natives as being clothed in skins of beasts, and using, as arms, bows and arrows, clubs and pikes. They saw bears and large deer, caught plenty of seals, fine salmon, and soles above a yard in length; but the fish in greatest abundance was a sort called by the natives *baccallaos*.

The Cabots brought home three of the natives of Newfoundland. "These savages were clothed in beasts skins and did eat raw flesh, and spake such speech as no

man could understand them ; and in their demeanour like to brute beasts whom the king kept a time after."

In the reign of good Queen Bess Sir Humphrey Gilbert obtained letters patent, dated 1578, authorising him to undertake western discoveries and to possess lands unsettled by Christian princes or their subjects. He set out in 1583 to take possession of the northern parts of America and Newfoundland. The fleet consisted of five ships, in which were embarked about two hundred and sixty men, including shipwrights, masons, smiths and carpenters, besides "minerall men and refiners;" and, "for the solace of our people," says Mr. Haies, who described the voyage, "and allurement of the savages, we were provided of musicke in good varietie; not omitting the least toyes, as morris dancers, hobby horsses, and Maylike conceits, to delight the savage people, whom we intended to winne by all faire meanes possible." This little fleet left Cawsand Bay on the 11th of June.

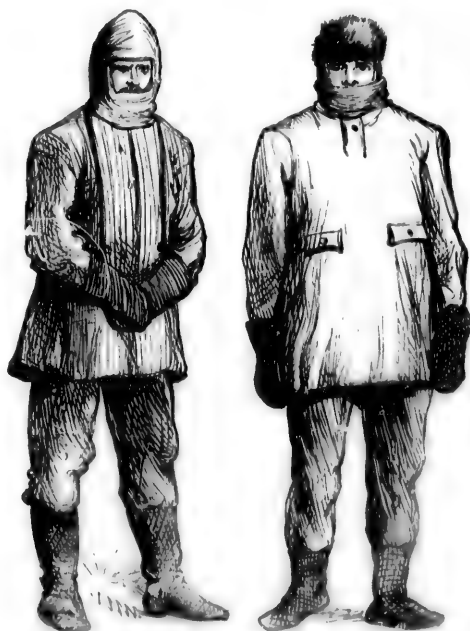
On entering the harbour of St. John's, the general and his people were entertained with great profusion by the English merchants, who carried them to a place called *the garden*; but the writer of the voyage observes, that nothing appeared but "nature itselfe without art:" plenty of roses and raspberries were found growing wild in every place. Here in presence of the English traders and many assembled foreigners, possession was taken, in the queen's name, of the harbour and two hundred leagues around it every way. Several parcels of land were granted to different persons; but, it seems, "the general was most curious in the search of metals, commanding the mineral-man, especially, to be diligent." This mineral-man was a Saxon, honest and religious, named Daniel. He brought to Sir Humphrey what he called silver ore, but the general would neither have it tried nor spoken about till they got to sea, for a very good reason—"the Portugals, Biscains, and Frenchmen were not far off."

Sir Humphrey now set sail, in his small frigate, the *Squirrel*: it was a miserable bark of ten tons. With him he took two other ships, the *Delight* and the *Golden Hinde*, and all three proceeded on a voyage of discovery to the southward. Misfortune was not far off. The *Delight*, with all the valuables on board, was wrecked among the flats and sands near Sable Island, when only twelve men escaped in a boat out of more than a hundred souls. Amongst those who were lost was a learned Hungarian, who had embarked on the voyage in hopes to pick up curious tales and things "worthy of remembrance," and also the honest and religious Daniel "the Saxon, refiner and discoverer of inestimable riches."

It is not said that Sir Humphrey Gilbert mourned over the loss of the scholar, but that of the miner and the ore was a sore blow to him. On the strength of his having discovered a silver mine he had reckoned on borrowing £10,000 from the queen for his next voyage. The hopes of riches was a sure means of winning the support of the good Queen Bess.

After this disaster, Sir Humphrey determined on proceeding in his little bark to England along with the *Golden Hinde*. The *Squirrel* was wholly unfit for such a voyage, and Sir Humphrey was entreated not to venture in her, but to take his passage on board the *Golden Hinde*. "No," said the brave man; "I will not forsake my little company going homeward, with whom I have passed so many stormes and perils." On the 9th of September, having passed the Azores, Sir Humphrey's frigate was observed to be nearly overwhelmed by a great sea; but she recovered the stroke of the waves, and immediately afterwards the general was observed by those in the *Hinde* sitting abaft, with a book in his hand, calling out, "Courage, my lads! we are as near to heaven by sea as by land!" The same night this little bark and all within her were swallowed up by the sea, and no more heard of.

Thus perished this brave and adventurous gentleman. It has been said that he was chiefly induced to continue in the *Squirrel*, and adhere to the fatal resolution of not quitting her, in consequence of a malicious report that was spread abroad, and had reached his ears, that he was afraid of the sea. But it is not probable that a man of such undaunted courage and vigour of intellect would trouble himself about such idle talk.



PREPARED FOR THE COLD.

CHAPTER IV.

THE EXPLORATION OF GREENLAND.

ADMIRAL LINDENAU'S DANISH EXPEDITION OF 1605—THE NATIVES OF GREENLAND—A HOME FOR CRIMINALS—A SECOND DANISH EXPEDITION IN 1606—A THIRD EXPEDITION IN 1607—MUTINY AT SEA—A DANISH EXPEDITION TO REDISCOVER EAST GREENLAND IN 1652—EXPEDITIONS FOR THE SAME PURPOSE IN 1786-87—THE INTERIOR OF GREENLAND—EXPEDITIONS TO EXPLORE IT IN 1728, 1751, 1830—DR. HAYES' EXPEDITION IN 1860—A VAST FROZEN SAHARA—RUNNING FOR LIFE—DR. RAE'S EXPEDITION IN 1860—DR. ROBERT BROWN'S EXPEDITION IN 1867—A SUCCESSFUL JOURNEY IN 1870 BY PROFESSOR NORDENSKJÖLD AND DR. BERGREN—REMARKABLE WATERFALLS—EXPEDITION BY THE *GERMANIA* AND *HANSA* IN 1869-70—THE SAD END OF THE *HANSA*—CHRISTMAS ON AN ICE-FIELD—IN GREAT DANGER—THE VOYAGE OF THE *GERMANIA*.

THE Danish nation, which might be supposed to be the most interested in prosecuting discoveries in the arctic seas along the two coasts of Greenland, saw the repeated enterprises of the English in those waters with indifference. Roused, however, at length to a sense of the importance of northern discovery, the King of Denmark caused an expedition to be fitted out for the exploring of Greenland. It consisted of two ships and a pinnace. One of the ships, called the *Frost*, was commanded by John Cunningham, a Scottish gentleman in the service of the king; on board of her was James Hall, an Englishman, acting as principal pilot. The other ship was the *Lion*, commanded by a Dane. The pinnace was under the command of John Knight, an Englishman. The whole expedition was placed under the orders of Admiral Godske Lindenau. They sailed from Copenhagen on the 2nd of May, 1605. On the 30th they saw the south point of Greenland, which, out of compliment

to the King of Denmark, they named Cape Christian. To avoid the ice which encompassed the shore they stood to the westward, and fell in with "mighty islands of ice, being very high, like huge mountains," making a hideous and wonderful noise; and on one of them was observed "a huge rocke stone, of the weight of three hundred pounds or thereabouts."

Finding nothing but ice and fog from the 1st to the 10th June, the *Lion's* people hailed the admiral, "calling very fearfully, and desiring the pilot to alter his course, and return homeward." The alarm spread in the admiral's ship, and they would have put about had not Cunningham, the captain, protested he would stand by Hall "as long as his blood was warme, for the good of the king's majestie." This pacified them for a moment, but the next floating island of ice renewed the terrors of those on board the *Lion*, who, having fired a piece of ordnance, stood away to the southward.

On the 12th the admiral fell in again with the coast of Greenland, and gave the names of Mount Cunningham, Queen Anne and Queen Sophia's Capes, to certain portions of the land; and entering a deep bay, which they called Christian's Fiord, a party landed and examined some tents of the natives covered with seal skins; and within, among other articles, some vessels were observed boiling over a little lamp, in one of which was found a dog's head boiled. "so that I persuaded myself," says Hall, "that they eat dog's flesh."

The natives presently came off to the ship in their boats and bartered whalebone, seal skins, morse teeth, and sea unicorns' heads for nails and pieces of old iron. But on reaching the shore they began to hurl stones at the strangers with their slings "in such sort, that no man could stand upon the hatches." The Danes, however, succeeded after some time in dispersing them by the fire of musketry; but they assembled again in greater force than

ever, having upwards of seventy boats, and not less than 300 persons on shore.

The wind luckily became easterly, on which the pinnace steered out to sea, and coasting along the shore to latitude 69° they found many goodly sounds, bays, and rivers, and gave names to divers of them. They met with much drift-wood, "but whence it cometh," observes Hall, "I know not." Hall would have proceeded farther to the northward, but the people in the pinnace earnestly entreated him to return, saying that their companions in the admiral's ship, the *Lion*, would mutiny and leave them behind, which in fact they had nearly done. On returning they found that the people in the ships had been fighting with the natives, of whom several were slain and three taken prisoners.

Before leaving Frost Sound they turned on shore, with certain necessities, two Danish malefactors whom they had brought out for that purpose by order of the court. They committed the unfortunate wretches to God and then set sail. They passed down Davis's Strait with a rapid current in their favour, and on the 10th of August anchored off the castle of Elsinore.

The ship in which Admiral Lindenau was stood apparently to the south, somewhere about Cape Farewell, when he was visited by a number of savages, as they were called, though very far from deserving that appellation. Wine was offered them, but it was not to their taste, and they refused it. Whale oil, on the other hand, was what they liked, and they drank whole mugs full. The admiral most unwarrantably seized two of the natives and carried them off to Denmark.

The Danish government resolved to follow up the further discovery of Greenland. They caused four ships and a pinnace to be fitted out the next year, and James Hall was appointed pilot-major of the fleet. Two of the ships, the *Frost* and the *Lion*, were the same as those employed the preceding year, and commanded by the same officers.

The third ship was the *Eagle*, the fourth the *Gilliflower*, and the pinnace was called the *Cat*. The same admiral, Lindenau, was appointed to command the second expedition, and the three natives captured by Cunningham were taken to serve as interpreters and guides.

The fleet sailed from Elsinore on the 29th of May, 1606. They had not proceeded far when two of the captive Greenlanders died. About 63° 45' they were surrounded by "mighty banks of ice," and got clear with great difficulty. At last they came in sight of Greenland, about ten leagues to the south of Queen Anne's Cape, the *Frost* on the preceding day being separated from the *Lion* and the *Gilliflower*.

They put into Cunningham's Fiord, where, it seems, they had found a silver mine the year before, of which ore they had sworn to his majesty to bring home a sufficient quantity; accordingly "they all landed to see the silver myne, where," says Hall, "it was decreed that we should take in as much thereof as we could." This, in fact, appears to have been the grand object of the extensive equipment furnished by the King of Denmark; it was the discovery of gold and silver that actuated the framers of an expedition on a scale unnecessarily large for the purposes of scientific discovery; for in fact no search nor even mention is made either of a North-west Passage or of Greenland exploration.

They rowed in their boats up the sound, passing "many green and pleasant islands," and after some days came to the mouth of a river, which they named, after the pilot of the *Eagle*, Fos river. On the bank of this river was situated the winter village of the natives, consisting of about forty houses "builled with whales' bones, the balckes being of whales' ribbes; the tops were covered with earth, and they had certaine vaults or sellers under the earth foure square, about two yards deepe in the ground." In the burying place they observed the bodies wrapped in seal

skins, "and stones laid in a manner of a coffin over them." Here they seized five natives to carry with them to Denmark. They learned from their new captives that the country was named Secamunga, and that the great king, who lived in the interior, was carried upon men's shoulders.

It was now the 10th of August; the weather began to be very stormy. They resolved to return to the southward, and after a long passage arrived in Copenhagen Roads on the 4th of October.

This fruitless expedition it seems was followed up by another the next year, equally fruitless. It consisted of two ships, the command of which was entrusted to a Danish captain of the name of Karsten Richardisen, a native of Holstein, who engaged some sailors from Norway and Iceland; but they proceeded no farther than Cape Farewell. The Danish chronicle says they turned because of mountains of ice obstructing their passage; but Hall gives a more probable reason. He says that the Danish crew mutinied for fear the honour of their discoveries would be attributed to an English pilot they had on board, and forced the ship to return to Iceland.

Many years now elapsed before the Danes troubled themselves again about Greenland. In 1652, Frederick III., King of Denmark, commanded Captain Danell to undertake an expedition to rediscover East Greenland. He set sail from Copenhagen on the 8th of May, with two vessels, and proceeded to the north of Iceland. Then taking a westerly course, he perceived the coast of Greenland on the 2nd of June, at the distance of about thirty miles, in latitude $64^{\circ} 50'$; but could not approach nearer on account of the ice. In the N.E., at about three miles' distance, they saw two small islands, which they named Hvidsolen and Mastelos Skib.

On the 3d they again saw land, which was very high, and appeared to be covered with ice. This land was about thirty-two miles from them; they sailed among some little

islands; the ice extended from the coast eighteen or twenty miles into the sea. On the 6th of June they saw five small islands in latitude 65° .

The most northerly cape they saw, in $65^{\circ} 30'$, received the name of the Cape of King Frederick. They coasted along the land running to the south-west, but could not anywhere penetrate the ice, which was not strong enough to support them had they wished to walk on it towards the land.

At last they doubled Cape Farewell, and sailed along the western coast of Greenland, remaining on that coast till the 16th of July. On the 18th of July they repassed Cape Farewell, and on the 23rd of July, in latitude 61° , they saw a bay between two high mountains, and would have entered it if the night had not prevented them. For several days following they continued to see land, which they approached within four or five miles, but they had no means of reaching it on account of the ice. They were obliged at length to give up their endeavours to approach it, and return to Denmark.

Captain Danell set sail again from Copenhagen on the 16th of April, 1653, went to the north of Iceland as far as latitude 73° , beyond that of the island Jan Mayen, and then took the direction of S.W. and W.S.W., and on the 13th of June, in latitude 64° , saw something blue in the horizon, which he conjectured to be Cape King Frederick. On the 19th of June, he saw Herjolfsnes, in Greenland, in latitude 64° , but the ice was twenty-four or twenty-five miles from the coast. He coasted along as far as Cape Farewell, but always at the distance of forty-five or fifty miles from the land, on account of the masses of ice; and repaired to the western coast of Greenland, from whence he returned to Denmark.

We now pass over upwards of a hundred and thirty years, and come to another Danish expedition in the year 1786.

The King of Denmark, at the recommendation of Bishop Egede (son of the missionary Hans Egede, who had taken him, when a child, into Greenland), fitted out an expedition in this year for the purpose of re-discovering the eastern coast of Greenland. The command of the expedition was given to Captain Lowenorn. The bishop was persuaded that the long lost colony on this coast* would be found to exist, or to have existed, in about the same parallel of latitude with the central part of the western coast of Iceland. The ship, *Greo Ernst Scheinmelmann*, of 246 tons burden, usually employed on the whale fishery, was engaged by government for this expedition. There was also attached to her a small vessel of 60 tons, which was placed under the command of Lieutenant Egede, the son of the bishop. These vessels were to pass the winter in Iceland, in order to resume their research the following summer, in case they should not succeed the first year.

The two vessels set sail from Copenhagen on the 2nd of May, 1786, and arrived at Iceland on the 16th of the same month. They sailed westward, and soon their struggles with the ice began. To make a long story short, our explorers completely failed in attaining their object. Admiral Lowenorn returned to Denmark with his ship, and Lieutenant Egede made a second attempt that year.

With his little vessel he set sail from the port of Havnefiord, in Iceland, on the 8th of August, 1786; met for many days enormous masses of floating ice, and discovered land on the 16th of August, in latitude $65^{\circ} 24' 17''$, longitude $33^{\circ} 10'$, at the distance of sixty or seventy miles; and approached it within thirty miles. The ice was of great depth between him and the land, but he could find no opening to push through it; he hove the lead in vain—no bottom was to be found. He perceived a narrow space of clear water lying between the ice and the land. The land was very high, with pointed rocky summits, apparently of

* See p. 45.

greater elevation than the mountains of Norway; and they were covered with snow and ice; but through the telescope they could discover pointed peaks lower down, which were not covered with snow.

On the 20th they again discovered land, when in latitude $64^{\circ} 58' 53''$, longitude $34^{\circ} 34'$, at the distance of about six and thirty miles; but all the coast was beset with ice, which it was impossible to penetrate. The land was very high, with pointed rocks covered with snow and ice. Through the telescope they perceived clefts in the rocks, and they thought they could see moss growing in some places. There were numbers of seals on the ice-islands, gulls, and various species of sea-birds.

Egede coasted on along the land towards the south, and though the air was very clear, they could perceive neither men, houses, nor animals, though they were sufficiently near the land to see them had there been any. On the 21st he still continued to see land; but the ice drove him from it, and in order that he might not be closed in, he thought it prudent to stand out into the open sea. The following day they had a terrible storm, by which the vessel was much damaged, and on the 22nd of September they regained the port of Havnefiord in Iceland, after being tossed about in all directions for some weeks.

Here Lieutenant Egede resolved to pass the winter. In the spring he resumed his labours. On the 18th of May, 1787, he approached the ice as close as was possible, in order to get a near view of the east coast of Greenland. He was then about thirty miles from the nearest land, and forty miles from the most northern part of it. They saw nothing but rocks, very high, pointed, and in most parts covered with ice and snow, presenting a most dreary and miserable spectacle.

On the change of the current, the ice began to come down afresh from the north, which forced them to make sail for Iceland, where they arrived on the 28th of May.

On the 8th of June Lieutenant Egede set sail a second time; but meeting with nothing but mountains of ice, which it was impossible to pass, or to find any opening to admit the vessel towards the land beyond the ice, he put back into Iceland, after an unsuccessful attempt of three weeks. On the 14th of July and the 25th of August he again endeavoured to pass through the ice, and to push on towards the coast of Greenland; but meeting continually with impenetrable ice, which prevented him even from seeing the land, he was at last forced to abandon the undertaking altogether, and to return to Denmark.

These expeditions which we have enumerated were all directed towards the exploration of the Greenland coast. We have now to speak of various attempts made to penetrate into the interior of the land. Of the mysterious, ice-bound nature of that interior we have already said something.*

The first attempt to penetrate the interior of Greenland seems to have been that of Major Ocean and Captain Landorff, in 1728. These gallant Danish officers proposed what, says Dr. Robert Brown, "appears to us almost too ludicrous and madcap a scheme to be seriously related; namely, to ride on horseback across the country from the west to the east coast! Evidently they knew nothing before starting of the nature of the road. That their expedition failed is not surprising.

In 1751 an enterprising attempt was made to pass through the interior by Lars Dalager, an adventurous trader. On the 2nd of September, accompanied by a Greenlander, the Greenlander's daughter, and three other natives, he set out on his expedition from a bay on the south of the iceblink. They tied in a bundle their bag of provisions and their furs to sleep in, and gave the pack to the girl to carry. The rest of the party each took a little skin kayak, or Greenland boat, on his head—for some

* See p. 3.

water had to be crossed at first—and a musket on his shoulder, and so marched along.

The first half-mile was by a brook-side, and was level and easy walking; after that they had a high and rugged rock to cross, and frequently fell down with their boats on their heads. But we need not narrate all the particulars of their journey. At four o'clock on the 5th, we find them on a high rock on the borders of the iceblink. Hitherto they had been travelling over the ground bordering the great interior *mer de glace*, or over some defluent glaciers. Now, an extensive prospect burst upon their view on all sides, striking them with wonder, particularly when the vast fields of ice were seen stretching across the country in the east coast, bounded by mountains whose tops were covered with snow like those on which they stood.

The adventurers stayed till evening on the mountain-side and then, descending a little way, lay down to rest. Lars Dalager was so agitated by what he had seen, as well as chilled by the bleak air, that he could not sleep. The next morning they shot a reindeer, and Dalager was glad to take a draught of its warm blood, and to join the Greenlanders in demolishing a raw haunch of venison, for they had no fire. Up to this time he had avoided raw meat, and contented himself with bread and cheese.

The enterprising trader would fain have gone on farther; but when he looked at the condition of his party, he saw that it would be prudent to return. Each had taken two pairs of Esquimaux boots with him, but they were now worn to tatters, and the girl, who had lost her tools, was unable to repair them. They therefore made the best of their way back to the tents which they had left.

In 1830 we have another expedition to record, that of Kielsen. Kielsen was a whale-fishing assistant at Holstenborg, in the Inspectorate of South Greenland, situated at the mouth of a large fiord. On the 1st of March he set out with three sledges, and by midday of the 6th came to

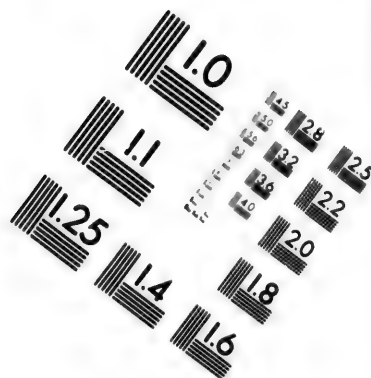
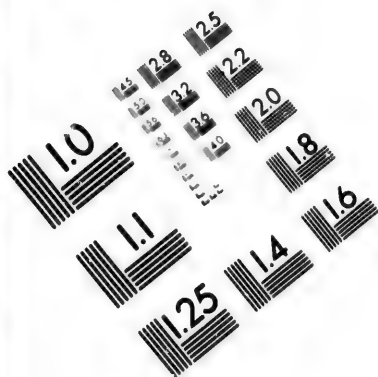
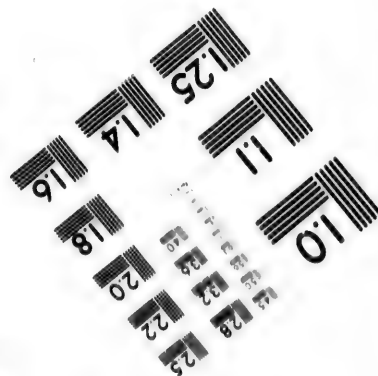
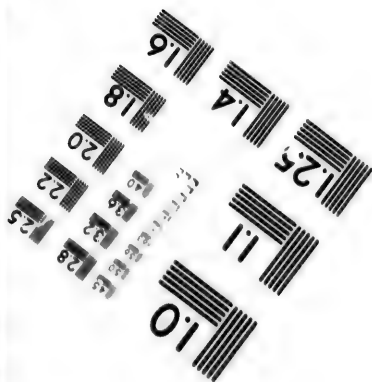
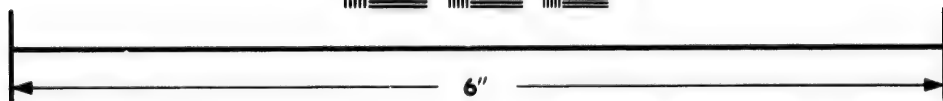
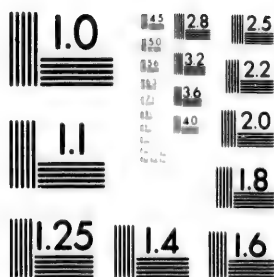


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a considerably extended plain. Here the land sloped inwards, and now they saw at their feet the huge extended mass of the great interior ice. They now quickly ran over small hills, lakes, and streams, until they came to a moderately large lake at the end of the inland ice, which was the limit of their journey. After an attempt to climb the ice, Kielsen returned, and had a most troublesome time of it. On this expedition he penetrated into the interior eighty miles in a straight line from Holstenborg.

In 1860, Dr. Hayes, of the American schooner *United States*, made a voyage to Smith's Sound, to which we have referred elsewhere. One of the minor excursions which he took while his vessel lay in winter quarters, was into the interior of Greenland. It was one of the most successful of the attempts which have been made to penetrate the inland ice, as well as the most northerly of them. They had a difficult journey, and one night the cold was so intense that all the party had to quit the shelter of their tent and run about on the ice to save themselves from getting benumbed.

At last they reached an altitude of 5000 feet above the sea, seventy miles from the coast. They were now in the midst of a vast frozen sahara, immeasurable to human eye. Neither hill nor dale was anywhere in view. They had completely sunk the strip of land which lies between the *mer de glace* and the sea; and no object met the eye but their feeble tent, which bent with the storm. "Fitful clouds swept over the face of the full-orbed moon, which, descending towards the horizon, glimmered through the drifting snow that whirled out of the illimitable distance, and scudded over the icy plains; to the eye in undulating lines of downy softness—to the flesh in showers of piercing darts."

The storm now made them run for life to a point 3000 feet lower, where the wind was less severe and the temperature 12° higher. They now returned to their ship, the latter part of the journey being wholly by moonlight.

In 1860, Dr. John Rae, already famous as an arctic traveller, made an excursion towards the interior, but he never reached the inland ice. His party was stopped by a heavy fall of snow.

Towards the end of July, 1867, Dr. Robert Brown and Mr. Edward Wymper made an attempt to penetrate this icy waste with dog-sledges. "The season," says Dr. Brown, "was too late, and our attempt was impeded by various circumstances. Accordingly we were only enabled to proceed for a short distance, when, by the breaking down of our sledges, we were forced to return."

In 1870 the most successful journey ever made on the inland ice was accomplished by Professor Nordenskjöld and Dr. Berggren, an accomplished botanist. Perhaps the most interesting and, to the reader, novel portion of their journey is thus described by the professor: "At a short distance from our turning point we came to a copious, deep, and broad river,"—it was the month of July, and so warm enough for rivers to run,—"flowing rapidly between its blue banks of ice, which were here not discoloured by any gravel, and which could not be crossed without a bridge. As it cut off our return, we were, at first, somewhat disconcerted; but we soon concluded that, as on our journey out we had not passed any stream of such large dimensions, it must at no great distance, disappear under the ice. We therefore proceeded along its banks in the direction of the current, and, before long, a distant roar indicated that our conjecture was right. The whole immense mass of water here rushed down a perpendicular cleft into the depths below.

"We observed another smaller, but nevertheless very remarkable waterfall the next day, while examining, after our mid-day rest, the neighbourhood around us with a telescope. We saw, in fact, a pillar of steam rising from the ice at some distance from our resting-place, and, as the spot was not far out of our way, we steered our course by

it, in the hope of meeting—judging from the height of the misty pillar—a waterfall still greater than that just described. We were mistaken; only a smaller, though, nevertheless, tolerably copious river rushed down from the azure cliffs to a depth from which no splashes rebounded to the mouth of the fall; but there arose instead from another smaller hole in the ice, in the intermediate vicinity, an intermittent jet of water mixed with air, which, carried hither and thither by the wind, wetted the surrounding cliffs with its spray. We had then here, in the midst of the desert of inland ice, a fountain, as far as we could judge from descriptions, very like the geysers, which in Iceland are produced by volcanic heat.

We have now recorded the chief attempts which have been made to penetrate the interior of Greenland, and come to speak of a very recent exploration of the east coast, accomplished by the Germans, who on this occasion entered the lists of arctic discovery for the first time. We refer to the expedition of the *Germania* and *Hansa* in 1869 and 1870.

Considerable difficulty was experienced in getting the little expedition afloat. Germany had not advanced far enough as a naval power to warrant a government expedition; and the enterprise, says the *Athenæum*, in a review to which we are indebted for much information, was entirely dependent on private subscriptions raised by the efforts of a few enthusiasts. The amount was not large: it was about £10,500.

Two vessels were purchased and equipped, the *Germania*, a steam-vessel of 143 tons; and the *Hansa*, of 77 tons. Captain Koldewey commanded the more important vessel, and he had an able coadjutor in Captain Hegemann on board the *Hansa*. Each vessel was furnished with a staff of scientific men, "which rather exceeded the proportion advisable in such small vessels with such small crews."

The ships were visited by the king before their de-

parture, which took place from Bremerhaven, on the 15th of June, 1869. On the 9th of July they sighted Jan Mayen Island; and on the 15th of the same month arrived at the edge of the ice on the Greenland coast, in latitude $74^{\circ} 47'$, where they experienced dense fogs.

On the 20th of July a mistake was made in a signal, and in consequence the two vessels parted company, never to meet again. We shall first follow the adventures of the unlucky *Hansa*.

On the 28th of July those on board the *Hansa* saw the coast of Greenland, in latitude 73° ; but it was impossible to approach it on account of the ice. On the 14th of August the ship was hemmed in on all sides, and the temperature fell to 16° Fah. On the 2nd of September she was again free, and proceeded for twenty miles in a north-west direction. It was her last sailing trip. She got blocked firmly between two promontories of a large ice-field, and on the 14th was completely frozen in.

It became obvious towards the end of the month, that the winter must be passed where the ship was fixed, and the prospect before the explorers was dismal in the extreme. They had the good sense, however, to look their difficulties in the face, and to prepare for the worst. The boats were got on the ice with provisions for each, and a house was built of stones and snow. On the 18th and 19th, the ship was much pressed by the ice, and was lifted seventeen feet at the bow. As there was a strong probability of her breaking up, everything was removed from her that could be. Then she sprang a leak, and after a hopeless attempt at pumping her out, the masts were cut away, and the *Hansa* became a wreck and went down.

The ice-field on which the shipwrecked mariners were encamped drifted southwards. They approached the land at times, and Liverpool Coast was seen. While thus drifting at the mercy of the wind and currents, the amenity of the crew to discipline was, under the circumstances,

praiseworthy. They were not without their amusements here is Christmas Day :—

“In the afternoon, whilst we went for a walk, the steersman put up the Christmas tree, and on our return the lonely coal-hut shone with wonderful brightness. Keeping Christmas on a Greenland ice-floe! Made of pine-wood and birch-broom, the tree was artistically put together. For the lights, Dr. Laube had saved some wax candles. Paper-chains and home-baked ginger-bread were not wanting. . . . If this be the last Christmas we are to see, it was at least bright enough. If, however, we were destined for a happy return home, the next will be a brighter one: may God grant it!”

The joy did not last long: here is what happened a few days later, on the 11th of January:—“Suddenly we heard ‘Water on the floe close by!’ The floe surrounding us split up; a heavy sea arose. Our field again began to break on all sides. On the spot between our house and the piled-up store of wood, which was about twenty-five paces distant, there suddenly opened a large gap. Washed by the powerful waves, it seemed as if the piece broken off was about to fall upon us, and at the same time we felt the rising and falling of our now greatly reduced floe. All seemed lost. From our split-up icefield all the firewood was drifting into the raging sea. And in like manner we had nearly lost our boat *Bismarck*; even the whale-boat was obliged to be brought into the middle of the floe. The large boat being too heavy to handle, we were obliged to give it up entirely. All this in a temperature of $9\frac{1}{2}^{\circ}$ It was a miracle that just that part of the floe on which we stood should, from its soundness, keep together. Our floe, now only 150 feet in diameter, was the 35 to 40 feet nucleus of the formerly extensive field to which we had entrusted our preservation.”

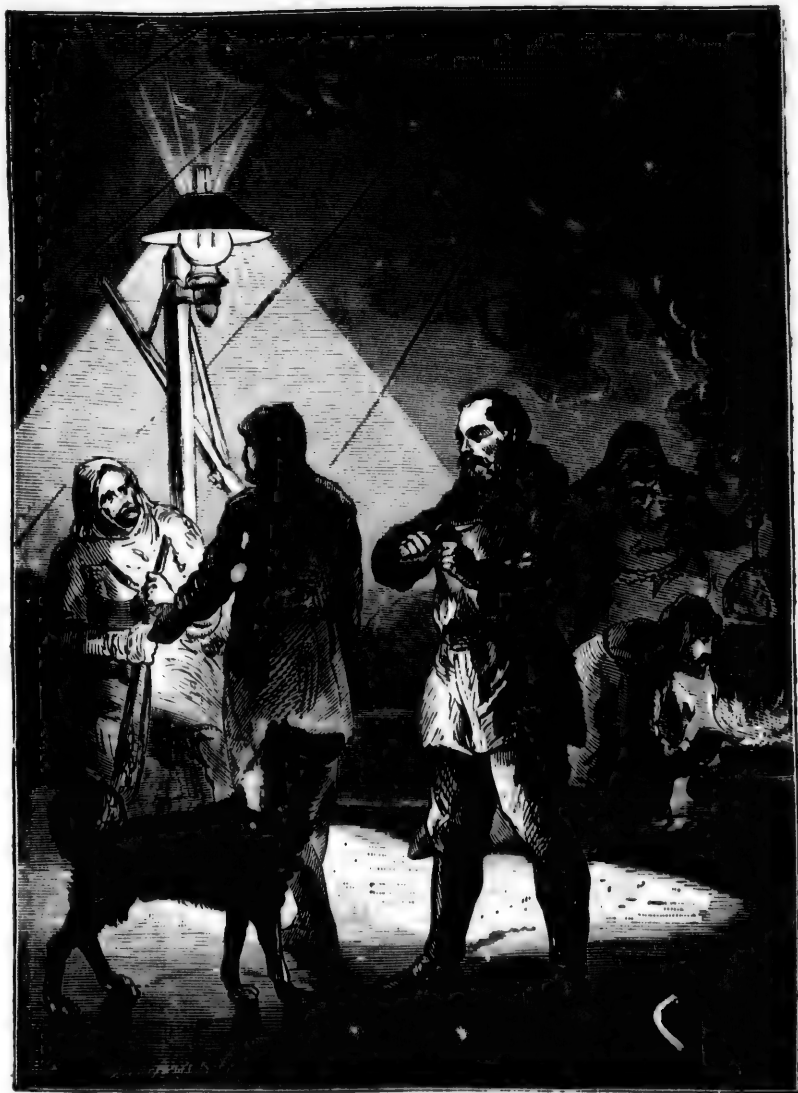
February, March, and April passed away, and on the 7th of May they quitted their icy prison with the three boats,

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IN WINTER QUARTERS ON AN ICE-FLOE.

Ice-World Adventures.

[Page 64.]

and on the 4th of June landed on Illuidlók, which they left on the 6th. Keeping in shore, they succeeded in rounding Cape Farewell, and reached Friedrichsthal on the 13th, where they were warmly welcomed, and Julianshaab on the 22nd, where they were not so kindly received. The shipwrecked crew found their way to Copenhagen in the Danish Company's ship *Constance*.

We come now to the voyage of the *Germania* after its separation from the *Hansa*. It is a narrative exhibiting less adventure, but more valuable scientific results. After doing battle for some time with the ice, the *Germania* was enabled to cast anchor in a bay at Pendulum Island, which bay was called after the vessel. She was forced to winter there after an unsuccessful attempt to get to the northward, outside, or eastward of Shannon Island. From their anchorage the crew made sledge journeys in various directions, and had many adventures with bears, musk oxen, etc.

On the 22nd of July, in the following year, another attempt was made to get the vessel to the northward, and again was she stopped in about the same latitude as in the previous year, and obliged to return south. Journeys were made in all directions, and in one of these Lieutenant Payer discovered a magnificent fiord, in latitude 73° , to which the name of "Kaiser Franz Joseph's Fiord" was given.

The *Germania* left Greenland on the 17th of August, 1870, and after some difficulty in getting clear of the coast, on the 11th of the following month arrived safely at Bremerhaven.



AN ARCTIC CANOE PADDLE.

CHAPTER V.

SEEKING FOR GOLD IN THE ARCTIC REGIONS.

MARTIN FROBISHER—FIFTEEN YEARS' SOLICITATION—FROBISHER'S FIRST VOYAGE IN 1576—INTERVIEWING THE NATIVES—A "PRETTY POLICY"—FINDING A BLACK STONE—IT CONTAINS GOLD—FROBISHER'S SECOND VOYAGE IN 1577—HOW THE NATIVES WERE TREATED—A CORNISH TRICK—CARGOES OF BLACK STONES—THE ROYAL COMMISSIONERS' REPORT—FROBISHER'S THIRD VOYAGE IN 1578—A PROPOSED COLONY—SURPRISING A WHALE—ENCOUNTERING THE ICE—MANY MISFORTUNES—THE COLONY SCHEME ABANDONED—HOMEWARD BOUND—THE TRUTH ABOUT THE BLACK STONES—FROBISHER'S FUTURE CAREER.

THE interesting voyages of which we have now to give particulars were not set on foot with a view to discover gold, though they were continued with that object. They were originally started to discover the North-west Passage. Early in the reign of Elizabeth the idea was revived that a passage to China might be found round the northern coast of America. One of the most noble and daring men of his age conceived that such a passage might be discovered, and was willing to undergo the hardships and peril of the venture. This was Martin Frobisher, an officer who afterwards distinguished himself by naval exploits in every quarter of the globe, but who earned his early fame by contending with the snows and tempests of the northern seas. He resolved to attempt the North-west Passage, and either to return with a verification of his suppositions, or not to return at all.

But though he had both the inclination and the ability for the enterprise, he lacked the means for carrying it out. For fifteen years he solicited the merchants of London to grant him a ship. They saw no reasonable prospect of profit, so they declined. Frobisher at last submitted his

plans to some officers of the court of Queen Elizabeth. Fortunately they engaged the attention and met with the support of Dudley, Earl of Warwick, and, as Hakluyt says, "by little and little Frobisher, with no small expense and pain, brought his cause to some perfection, and had drawn together so many adventurers, and such sums of money, as might well defray a reasonable charge to furnish himself to sea withal."

We now find Martin Frobisher in command of two small vessels, one of twenty tons and the other of twenty-five tons burden, and a pinnace of ten tons, all loaded with twelve months' provisions, and ready to set forth on his voyage. His little barks, or rather boats, seem ill-adapted for sailing arctic seas; but, as one writer has pointed out, such vessels are better calculated for threading their way through channels obstructed by ice, and even for withstanding somewhat rough shocks from it, than larger and more unwieldy fabrics.

The two larger vessels, the *Gabriel* and the *Michael*, left London on the 7th of June, 1576. On passing Greenwich, where Queen Elizabeth was then staying, they fired their guns in compliment to her majesty. The queen answered the salute by appearing at the windows of her palace, cheering and waving her hand, and Secretary Walsingham went on board, wished Frobisher success, and exhorted the crew to good order and obedience.

When they had proceeded on their voyage a considerable distance north-west of England, the crew of the *Michael* lost heart. They turned their faces homewards, and carried back to England most gloomy forebodings as to the probable fate of their comrades. But Frobisher was not a man to be daunted: one of his masts was sprung, and another had gone overboard, but he proceeded onwards, feeling confident, to use his own words, "that the sea at length must needs have an ending, and that some land should have a beginning that way."

There seems reason to believe, so far as his description can now be understood, that the first land Frobisher saw was the southern point of Greenland, and that he thence crossed the entrance of what was afterwards called Davis's Strait, towards the northern part of Labrador. He caught sight of two headlands, divided by a bay or strait, which he named Frobisher's Straits, while he called the southern headland after Queen Elizabeth. On the 21st of July he entered the Straits, and sailed along it for about fifty leagues, having a mainland on either side. To show how confused were the ideas entertained at that time respecting the relative position of Asia and America, it may be mentioned that Frobisher fancied the shore on his right hand to be Asia, and that on the left America!

He landed, and found signs of fire on the ground. A neighbouring hill was then climbed: from the top Frobisher saw a number of small objects floating in the sea at a distance. At first he thought them to be porpoises or seals, but, on a nearer view, they proved to be small leathern boats filled with men.

The natives caught sight of the boat in which he came on shore, and tried to capture it: their attempt, however, was defeated. Frobisher afterwards succeeded in coming to a friendly understanding with them. They brought salmon and raw meat, and gave seal-skin dresses, bear-skins, and such like articles, in exchange for bells, looking-glasses, and trinkets, "and to show their agility they tried many masteries upon the ropes of the ship, after our mariners' fashion, and appeared to be very strong of their arms and nimble of their bodies." But their friendship was only a pretence. Five of the English crew went on shore one day, and were captured in their boat, and never heard of more. In this way the commander was deprived of his only boat, and of some of his crew, whom he could ill spare.

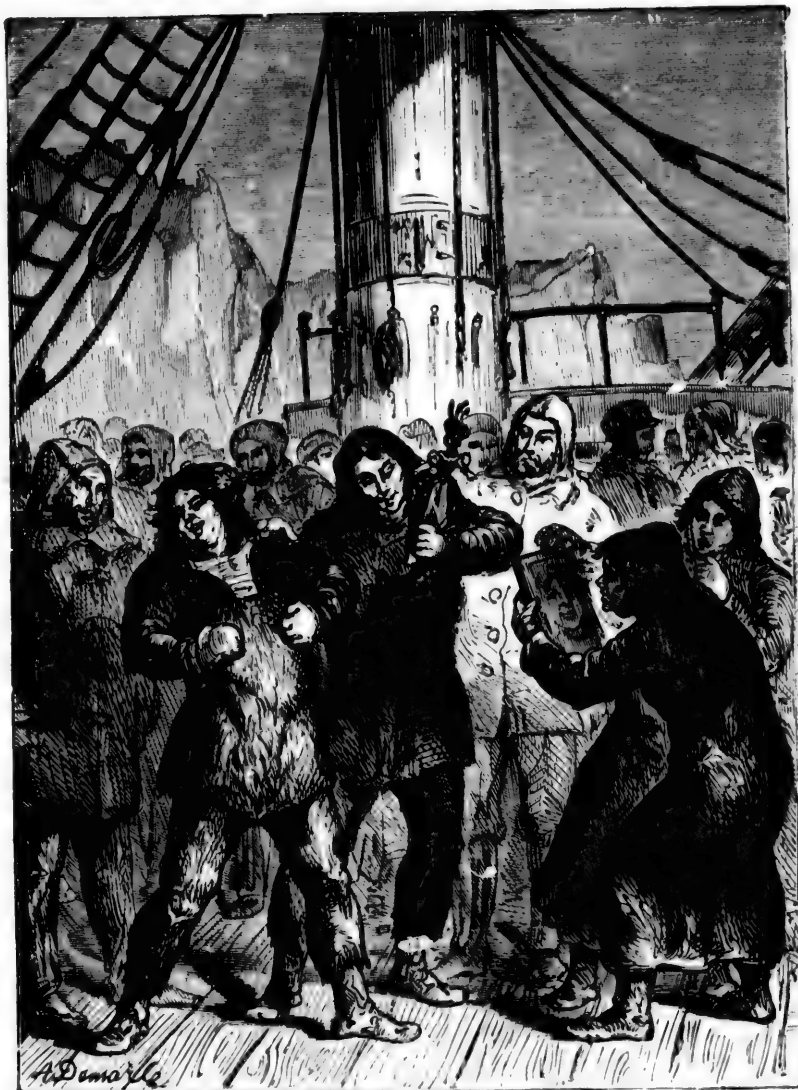
He now began to think of returning to England. It

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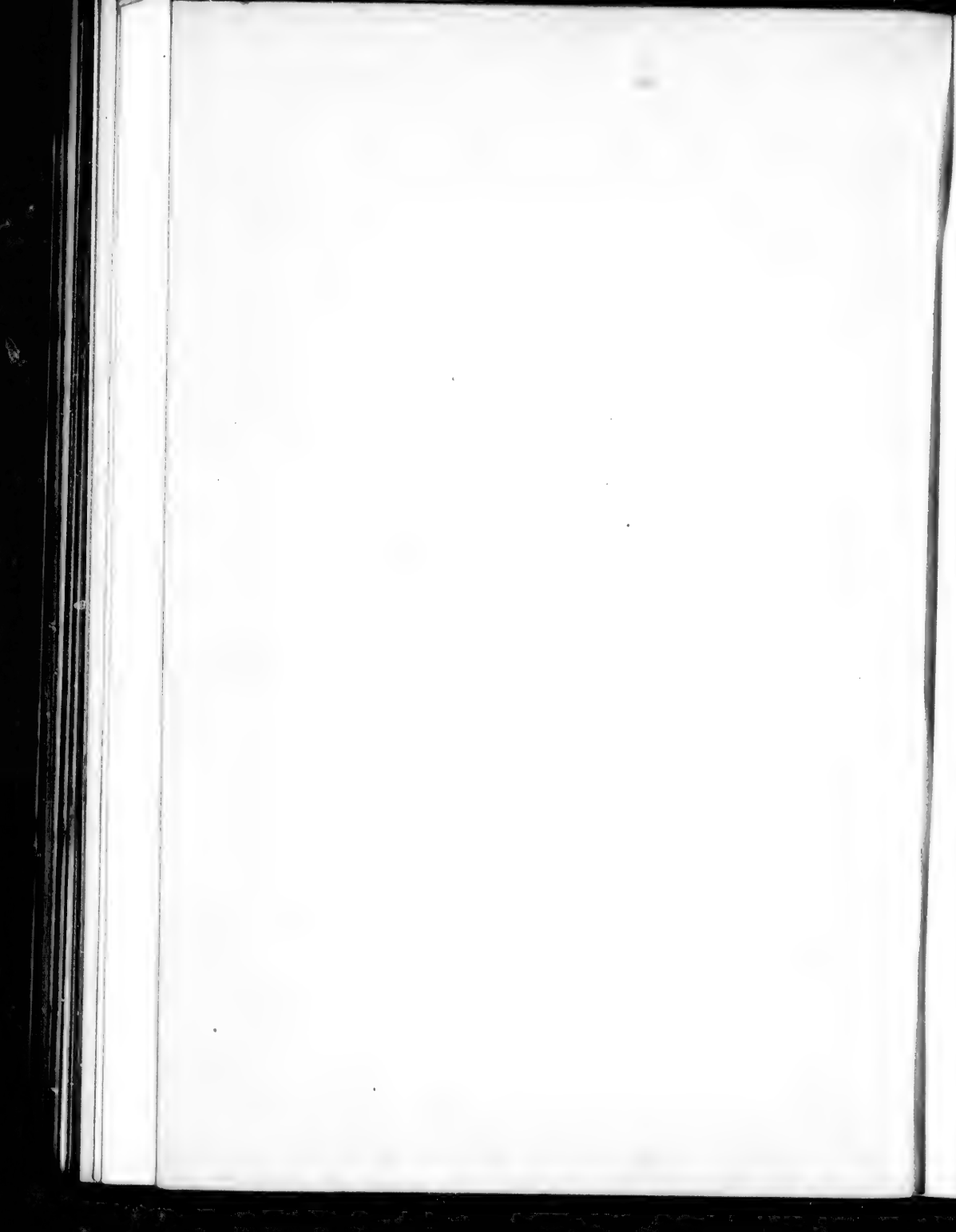
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ASTONISHING THE ESQUIMAUX.
Ice-World Adventures.

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occurred to him that it would be as well to take one of the natives "as a token that he had been to this spot. Therefore, to deceive the deceivers, he wrought a pretty policy." This "pretty policy" was to ring a small hand-bell within sight and hearing of the natives on the shore, and to intimate by gestures that he would give it in a present to any one who came for it in a canoe. The natives were wary, and would not at first place themselves within his reach. The temptation, however, was great; for a hand-bell was not seen in that region every day. One man ventured to approach the ship. When he came near, Frobisher seized him by the arms, and dragged him on board. The poor fellow is said to have bitten his tongue through out of sheer vexation, but he was brought to England as an arctic curiosity, and he died soon afterwards.

Some time previous to this incident, while sailing up the Straits, Frobisher had sent some of his men on shore with orders to bring him whatever articles, living or dead, they might find, as a token of taking possession of the country in the queen's name. Some of the crew brought flowers, some grass; and one man brought a piece of black stone, not unlike coal, but so heavy as to appear like a metal. The articles were laid aside, and the last named—the black stone—came to have a remarkable effect at a subsequent period.

Frobisher returned homewards, and arrived in England on the 2nd of October. All parties received him with much attention, as one who had visited regions never before seen by Europeans. Everybody he knew asked for some token of his adventures, and at last he had nothing left to give but fragments of the black stone. The wife of one of the "merchant adventurers," who had helped to fit out the expedition, happened one day to throw a piece of this stone into the fire, and after remaining there some time it was found to have acquired a golden, glittering appear-

ance. Curiosity was excited : it was sent to a refiner in London, and he pronounced that it contained a small portion of pure gold. Need we tell what followed ? The idea at once took root in every one's mind that the black stone was an ore of gold ; that the newly found country might, indeed some said must, contain abundance of it ; and that boundless riches were at the command of those who would undertake the fitting out of another expedition.

A new voyage was very soon planned, the proposed object being rather the searching for the precious ore than the discovery of new lands. On the 26th of May, 1577, Frobisher set sail from Blackwall on his second expedition, having under his command one of the royal ships, of two hundred tons burden, called the *Ayde*, together with two smaller vessels, the *Gabriel* and the *Michael*, fitly appointed with men, munition, and provisions for one year's service. With him he had about forty gentlemen and soldiers, and a hundred seamen. They left England, and proceeded to the coast of Greenland in safety, where they thought it, not unnaturally, "a marvellous thing to behold of what great bigness and depth some islands of ice be here, some seventy, some eighty fathome under water, besides that which is above, seeming islands more than half a mile in circuit."

The ships crossed from Greenland to Frobisher's Straits, They encountered a storm on the way, but it did not do much damage, and they sailed slowly between the two shores. On the 8th of July Frobisher landed on the northern shore, taking with him a company of goldfinders, to search for the precious ore which had brought them so far from home ; "but he could not get in all that land a piece so large as a walnut, where the first was found." They therefore proceeded to some other parts, and were more successful, for they managed to collect a considerable quantity.

On the following day Frobisher, accompanied by all

the gentlemen on board and a party of soldiers, went again on shore to reconnoitre the country, and make further discoveries. Some of the party were left in charge of the boats, while others proceeded inland, where they erected a column of large stones in honour of their worthy patrons at home. When returning to the boats, they espied some of the natives, who made signals as if desirous of a conference. Frobisher sent two of his men on one side, and held up two fingers as a signal that the natives should do likewise. The four men thus met, and established a kind of treaty of commerce; thus concluded: "they do use to lay down of their merchandize upon the ground so much as they mean to part withal, and so looking that the other partie with whom they make trade should doe the like, they themselves doe depart, and then if they doe like of their mart they come again, and take in exchange the other merchandize; otherwise, if they like not, they take their own and depart."

Frobisher and his party went towards his ships, but previously laid a plan which, to say the least of it, was somewhat injudicious. It was, to lay hold of two of the natives, take them forcibly on board, give trinkets and toys to one of them, whom they would then send back on shore, and retain the other as interpreter. Frobisher and one of his officers took upon themselves to put the plan into execution. Having engaged two of the natives in a conference, they suddenly seized them: the ground, however, was slippery with snow, and the natives speedily got out of the hands of their captors. They ran to a hollow in the rocks, where their bows and arrows were hidden, and soon commenced a serious attack. Frobisher was shot in the back with an arrow, and would probably have lost his life had he not soon reached the spot where his soldiers were placed to guard the boats. The two natives now ran away; but a Cornishman who was in the boat, and who was a first-rate wrestler, ran after them, and overtaking

one, "showed his companion such a Cornish trick, that he made his sides ache against the ground for a month after; and so being stayed, he was taken alive and brought away, but the other escaped."

A storm had in the meantime arisen which greatly endangered the ships, and the adventurers could not go on board that night. They made a shift to pass the night on shore, and the following day they reached their vessels in safety. Two or three days afterwards, they went on shore at another place, and lighted a fire. The goldfinders then essayed some of the ore which had been taken, and found it to contain a portion of the precious metal.

Some of the gentlemen attached to the expedition begged Frobisher to allow them to travel thirty or forty leagues inland, as a means of making additional discoveries; but he, considering "the greedie desire which our country hath to a present savour and return of gaine," resolved to postpone discovery, and direct his energies to the collecting of as much ore as possible. The principal members of the party, therefore, went on shore from time to time, travelling from place to place in search of ore, and taking with them the captive native as a sort of interpreter or guide.

When they had reached about thirty leagues up the Straits, they came to a place where abundance of the ore was to be seen; and Frobisher determined to gather the bulk of his load there. Every man of the party, from the captain downwards, set his hand to work and gathered the black stones; and a message was then sent to bring up the ships to that point.

On one part of the shore the adventurers met with some huts, which seem to have been very much like the Esquimaux huts of our own day. During the absence of Frobisher some of the crew of the *Ayde* had been on shore, and had seen sundry articles belonging to their five poor countrymen who had been captured the year before. This

led soon afterwards to a conflict with a party of natives which ended in the death of several.

In a few days, while the miners were still engaged in digging ore, a large party of natives appeared, as if to claim one who had been captured in the recent skirmish. Frobisher by means of signs required from them the restitution of the five men who had been laid hold of the preceding year, promising in return not only to release his captives but to make them presents. The natives answered by signs that the men were still living and should be delivered up, and intimated that the captain should write a letter to them, "for they knew well the use we have of writing." It seems that this show of friendship on the part of the natives was insincere: the five Englishmen were never more heard of.

The year was now far advanced, so Frobisher thought it advisable to return home. His own vessel was loaded with about two hundred tons of ore, with which he set sail. The other ships of the expedition were separated by violent storms, but all had the good fortune to arrive with their cargoes of black stones safely in England. The queen received Frobisher with high honours, and gave the name of *Meta Incognita* to the newly-discovered country. Her majesty was overjoyed to find that the matter of the gold ore promised great riches and profit, and that the hope of the passage to China by this last voyage was greatly increased.

A commission was appointed by her majesty to investigate the merits of the adventure, both as regards the value of the ore and the probability of finding a passage to India and China by the new route. What the real value of the ore was we have not now the means of ascertaining, but the commissioners reported that in both its features the adventure was one of national importance and worthy of extensive encouragement.

A third expedition was now planned on a liberal scale.

It comprised fifteen ships, having on board, besides officers, seamen, and miners, one hundred persons who were to form a colony in the new country. The colonists, it was intended, were to keep three of the ships, and the remaining twelve were to return laden with ore. A portable house or fort, built of timber, was stowed away on board one of the ships as a future dwelling for the colonists, of whom some were mariners, some soldiers, some miners, and a few officers who were to take a general charge of affairs.

Frobisher was placed in command of the expedition, and many gentlemen of fortune, attracted by the honour and excitement of the undertaking, cast in their lot with him. The queen expressed her approbation of the enterprise by presenting a chain of gold to Frobisher before he set sail.

Written instructions were delivered by the commander to the captain of every ship; and the whole fleet started from Harwich on the 31st of May, 1578. They reached the coast of Greenland in safety. Some of the party landed and took possession of the country in the name of the queen. A few simple Greenlanders were living in tents not far from the shore. When they saw the strangers they "fled fearfully away (supposing there had been no other world but theirs), and were much amazed at so strange a sight, and creatures of human shape so far in apparel, complexion, and other things, different from themselves." The visitors brought away some dogs, and left bells, looking-glass, toys, etc.

An adventure befel one of the ships as the fleet passed onward towards Frobisher's Straits. It struck a whale with such force as to bring the vessel completely to a stand, whilst the surprised sea-monster, making a "great and ugly noyse" descended into the water to a great depth.

On reaching the Straits they found, contrary to the experience of the preceding year, that the entrance was

completely frozen up. The ships came repeatedly in contact with large masses of ice, and after having forced a passage between, were often placed in the utmost peril in attempting to rejoin their companions. Indeed, two of the ships were lost sight of altogether for the space of twenty days. One ship of a hundred tons burden, while tracking her way between two masses of ice, was crushed and sunk, the crew having just time to escape. On board this vessel was, unfortunately, part of the timber fort or house destined for the colonists.

While the remaining vessels of the fleet were lying hemmed in with ice on every side at the entrance of Frobisher's Straits, a violent storm arose from the south-east. Additional quantities of ice were forced into the Straits from the open sea, forming a kind of wall behind the ships, whereby their chance of regaining open water was much diminished.

Some of the ships were anchored to masses of ice as a means of security, others were strengthened at the sides by every possible means, so as to enable them to resist the force of the moving masses. While some of the men were actively engaged in making the best practicable defence against the impending danger, "others, some of more mild spirit, sought to save their souls by devout prayer and meditation to the Almighty, thinking indeed by no other means possible than by a divine miracle to have their deliverance."

All the ships, excepting four, were thus hemmed in amongst the ice during a terrible storm. The four vessels in the enjoyment of freedom were somewhat to seaward of the others, and were enabled by the incessant labours of the crews and at imminent peril, to extricate themselves from the ice, and to pass out from the Straits to the open sea, where they "began anew to sorrow and feare for their fellowes' safeties."

The wind changed to the north-west on the following

day, and had the effect of driving the ice from the Straits, and thus by degrees liberating the imprisoned ships. The whole fleet once more assembled together, and the weary mariners began to repair the damage which their ships had sustained : some strengthened the sides, others set up new top-masts ; some repaired their sails and ropes, and a few others occupied themselves in stopping leaks.

After a short sojourn in a sheltered bay, until the ice had been blown or carried out of the Straits, the undaunted adventurers again made an attempt to enter. On this occasion they met difficulties of another kind. The fog became so dense that they could neither distinctly see when or how they were approaching land. The snow also had so changed the form of certain landmarks which had guided Frobisher in his former voyage, that a distressing doubt hung over all their conclusions as to their real position. Frobisher sent boats to all the ships in succession, asking the candid opinion of the several captains as to where they were, for the absence of the sun prevented their ascertaining the latitude. Christopher Hall, James Beare, and other experienced mariners, who commanded the other vessels, gave it as their opinion that the fleet had been drifted by a strong current to a part of the coast never before seen by any of the crews.

During the fog some of the ships became again separated from the rest, and were so pressed upon by the ice that the men began to think about how they might best provide for their preservation. " Some hoped to save themselves on chests, and some determined to tie the hatches of the ship together and to binde themselves with their furniture fast thereunto ; and so to be towed with the ship-boat ashore, which otherwise could not receive half of their company ; by which means, if happily they had arrived, they should either have perished for lack of food to eat, or else should themselves have been eaten of those ravenous, bloodie, and man-eating people."

The principal part of the fleet proceeded up a strait which was quite new to our navigators. From it they found a passage into Frobisher's Straits, and they then came to the natural conclusion that what they had formerly termed the mainland of America was only an island. This fact added a little to their discoveries, but it was a small return for the perils they had undergone, and the valuable time they had already spent.

The various ships of the fleet gradually reassembled, and Frobisher was now desirous of passing up the Straits called by his name, to reach the harbour where it was proposed to leave the party of colonists, and to load his ships with ore. But a terrible check was given to all his plans. The passage was so blocked up with ice that it was utterly impossible to reach the harbour. Now the men began to get disheartened, and murmurs were heard against the plans of the admiral. Some proposed to find another harbour on the coast where they could repair their ships and rest awhile; others began to mutiny, and to say that it was as good to be hanged at home as to be lost amidst the ice. But Frobisher, with undaunted resolution, determined not to forego an attempt in which his honour and fame were at stake. He again led his fleet into the Straits, and, as it happened, into the teeth of another misfortune. A terrible storm arose from the south-east. During the tempest, although it was the month of July, there fell a considerable quantity of snow, "which did so wet through our poor mariners' clothes, that he that had five or six shifts of apparell had scarce one dry thread to his back, which kind of cold and wetness, together with the over-labouring of the poor men amidst the ice, bred no small sickness amongst the fleet."

With characteristic energy Frobisher proceeded onwards, threading his way through the narrow openings which occurred among the masses of ice. His own ship took the lead, in order that his men might see that he was willing

to bear the brunt of danger and difficulty. After immense exertion, most of the vessels arrived at the harbour in Frobisher's Straits. The admiral now called to his council Captains Fenton, Yorke, Carew, and Philpot, to consider the best means of obtaining the ore for which so many perils had been undergone, and of planting the proposed colony.

All the miners on board the ships which had arrived—there were five vessels still absent—were sent on shore, and immediately began to dig ore, in which task they were aided by some of the gentlemen and soldiers belonging to the expedition. The next thing was to land all the woodwork for the proposed erection. It was found, however, that not only had a portion of it been lost, as we have told, in the ship which had sunk, but other portions had been used for repairing and strengthening the ships during the frequent storms. It was also discovered, on examining the provisions, that the proposed allowance for the colonists, viz., one year's provisions for one hundred men, could not be spared from the fleet.

Captain Fenton then bravely offered to remain there for a year with sixty men. Upon this the carpenters were asked how long it would take to build the requisite habitation for sixty colonists. The answer was eight or nine weeks. This decided the matter: the fleet could not venture to remain in these parts more than four weeks, so the intended colonial settlement had to be abandoned for that year. All the captains signed a declaration to that effect, which was to be presented to Queen Elizabeth on their return, to explain why the colonization had not been effected.

In the meantime the ships which had been missing were struggling against the ice, in vain endeavours to pass up the Straits. The crews suffered so many hardships, that the captains and masters met together and had a conference what was to be done. It was clear that many of the

seamen wished to return to England at once, and regretted they had ever left it. An agreement was made to assist each other in further endeavours, but one of the pilots failed to abide by it; he turned his vessel homewards, and left the others to their fate.

Captain Best, of the ship *Annie Frances*, caused a pinnace to be prepared, and manfully resolved to venture in it up the straits in hopes of reaching the harbour where Frobisher and the rest of the fleet were supposed now to be. With a crew of twenty persons he set sail in the pinnace. It was a frail boat; "the carpenter who made it said he would not adventure himself therein for five hundred pounds, for the boat hung together only by the strength of the nails, and lacked some of the principal knees and timbers." In spite of this, it was guided safely through the ice to the harbour where the fleet lay; and when Best and his companions were recognized by the others, "there was a sudden and joyful outshoot, with great flinging up of caps and a brave volley of shot to welcome one another." A few days after this, Best's ship was sent for, and was fortunately able to join the others in the harbour.

Though the idea of colonization that year had been abandoned, the carpenters erected a small house on shore to ascertain whether, by the following year—when they hoped to return—it had survived the rough wintry climate. Frobisher deposited near it a few bells, knives, looking-glasses, pictures, whistles, and other trinkets for the natives, with a view to win those "brutish and uncivil people" to welcome them on any subsequent visit. He also caused corn, pease, and other grain to be sown as a resource for the next year.

The season was now far advanced. Dark fogs, snow, and storms indicated approaching winter. The drink, too, for the ships' companies had been so lessened by the leakage of the barrels, that it was evident a speedy return to England was necessary. With great reluctance the

commander gave orders to prepare for the homeward voyage. He loaded such of the ships as were conveniently at hand with ore resembling, or apparently resembling, that by which such high hopes had been excited; and then set sail. The difficulties encountered by the crews in extricating their vessels from the masses of ice were incessant and perilous; but all the ships, with the exception of the one that had sunk, succeeded in reaching England during the month of September, with a loss in all of about forty persons.

Thus ended Frobisher's third voyage, and thus ended the attempts to send such expensive expeditions to this new found country. The ore was ascertained, on more careful and steady examination, to be scarcely worth the trouble of bringing home, and altogether inadequate to defray the expenses of the voyage. It seems likely that the first specimens really did contain a small portion of gold, but that afterwards too little discrimination was exercised in the collection of specimens.

No one could doubt the energy and skill of Frobisher, but his last voyage was looked upon as a total failure; and he appears himself for a time to have fallen into unmerited neglect. Before letting him pass from our narrative, we may mention that in 1585 he served with Sir Francis Drake in the West Indies; and that three years later he commanded one of the largest ships of the fleet which defeated the Spanish Armada. His gallant conduct on that trying occasion procured him the honour of knighthood. He was killed in battle in the year 1594.



CREATURE COMFORTS.

CHAPTER VI.

DUTCH EXPLORATION IN THE ARCTIC SEAS.

DUTCH ENTERPRISE AWAKENED—THE EXPEDITION OF 1594—THREE TO FOUR HUNDRED IDOLS—BRIGHT HOPES OF A NORTH-EAST PASSAGE—AN ADVENTURE WITH A BEAR—VARIOUS DISCOVERIES—WILLIAM BARENTZ'S SECOND VOYAGE OF 1595—A GREAT LEAN WHITE BEAR—A REWARD PROMISED FOR THE DISCOVERY OF A PASSAGE TO CHINA—BARENTZ'S THIRD VOYAGE OF 1596—BEARS AND RED GEESSE—THE FIRST DISCOVERY OF SPITZBERGEN—WINTERING IN ICE HAVEN—CHRISTMAS DAY AND TWELFTH NIGHT—THE FIRST GLIMPSE OF THE SUN—THE DEATH OF BARENTZ—THE RETURN HOME—HUDSON'S EXPEDITION.

No sooner had the Low Countries been delivered from the yoke of Spain, than Dutch capital began to find its way into foreign channels, and a spirit of enterprise to infuse itself into the commercial pursuits of this industrious nation.

Desirous of participating with other maritime powers of Europe in the trade of the East, it was obvious that a passage which would lead by the north to India and China would be to them, of all others, the most advantageous. With a view to the discovery of such a passage, the United Provinces in 1594 sent out an expedition, consisting of four ships, whereof two were furnished by the city of Amsterdam, one by Zealand, and one by Enkhuysen. The first, called the *Messenger*, was commanded by Barentz; the name of the Zealand ship was the *Swan*, under the command of Cornelison, who was also appointed admiral; and the last was the *Mercury*, commanded by Ysbrants. The ships from Zealand and Enkhuysen sailed together on the 5th of June, reached Kilduyn in Lapland on the 23rd, passed Kolgoyon on the 3rd of July, and soon fell in with much ice and numerous seals. They continued their course to the east, and found the weather, about the middle

of July, as warm as in Holland during the dog days. The musquitoes were exceeding troublesome.

As they approached the island and strait of Waygatz or Waigatz, they encountered great quantities of driftwood, heaped up as if by art. Some of it consisted of large trees which had been torn up by the roots. The island looked charming, being covered with verdure, and adorned with a multitude of wild flowers. Passing round its southern coast the voyagers saw from three to four hundred idols—images of men, women, and children—with their faces turned towards the east.

On passing the strait they continued their course to the eastward, but met with considerable opposition from the ice. They stood on to the eastward until they came into a sea nearly free from ice. At this time they were not more than forty leagues from Waigatz Strait, and the mainland to the southward was in sight, trending apparently to the south-east. These circumstances gave them such confident hopes of an open passage to China, that instead of following up the actual discovery of it, they agreed to turn back, in order to be the first to convey the happy tidings to Holland. They accordingly made the best of their way home, which they reached on the 26th of September.

Barentz, in the *Messenger*, after crossing the White Sea, stood to the north-eastward, and having made the west coast of Nova Zembla on the 4th of July, proceeded along it to the northward. He next passed Admiral's Island, Cape Negro, and William's Island, on the shores of which were found much driftwood and a host of sea-horses.

An adventure with a bear enlivened the visit to William's Island. It was a tremendous white monster, of wonderful strength. The sailors wounded her with a musket ball, and then tried to get her into the boat by means of a rope. The bear, however, needed no assistance in order to come on board, and had very nearly succeeded in becoming mistress of the situation, and driving all the people into the

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far end of the boat, when luckily the rope entangled her with the rudder, and checked her career. One of the crew then summoned up all his courage, emboldened by her helpless situation, and stepping aft put her to death with a half-pike.

From William's Island they sailed in a northerly direction, and came to an extensive field of ice, about latitude $77^{\circ} 25'$. Returning to the southward they named the nearest point of Nova Zembla in sight Ice Point, and here they found certain stones that glistened like gold, which on that account they named gold-stones. Farther south they gave the name of Orange to certain islands, on the shore of one of which they saw about two hundred sea-horses basking in the sun. They attacked them with hatchets, cuttle-axes (cutlasses), and pikes, without being able to kill one of them, but had recourse to the cruel expedient of striking some of the teeth out of their mouths.

The ice now came floating down in such quantities, and the weather was so misty, cold, and tempestuous, that the crew first began to murmur, and then refused to proceed any farther. Accordingly, on the 1st of August, Barentz consented to return to the southward, by the same way as they had come. In coasting along, a large inlet was discovered, which Barentz judged to be the place where Oliver Brunel* had been before, called Costine Sarca. They landed farther south on Sion's Point, where they perceived some Europeans must have been, for they there found six sacks of rye-meal, a cross, a heap of stones, and a large cannon shot, and three houses built of wood, near which stood five or six coffins beside graves with dead men's bones, the coffins being filled with stones. They also discovered the wreck of a Russian ship, with a keel forty feet long. To this "faire haven" they gave the name of Meal Harbour, out of pure gratitude for the relief it had afforded them.

* An Englishman, of whom vague mention only is made by the Dutch.

On the 15th they arrived at the two islands called Mat-floe and Delgoy, and there they met the Zealand and Enkhuysen ships, which had repassed Waigatz Strait, on their return, the same day. From them they learned that the latter had been as far eastward, according to their conjecture, as the river Obi; "that they were not far from Cape Tabin, which is the point of Tartary that reached toward the kingdom of Cathaia, and that south-east from Waigatz they had discovered a small island, to which they gave the name of Staaten Island, and that there they found many stones that were of christall mountayne, being a kind of diamond."

From hence the three ships set sail together, and arrived in the Texel on the 16th of September.

Prince Maurice and the States General of the United Provinces entertained the most sanguine hopes, from the report of the two ships from Zealand and Enkhuysen in particular, of an eastern passage to China. They accordingly caused a fleet of seven ships to be fitted out for the new expedition. Six of them were laden with different kinds of wares, merchandise, and money, and factors were appointed to dispose of the said wares. William Barentz was constituted pilot-major. The seventh vessel was a small pinnace, which, on reaching Cape Tabin, was to proceed to examine the remainder of the passage, and bring back a report.

These immense preparations were rendered useless. The expedition was far too long of setting sail; it did not reach Nova Zembla till the 17th of August, a period of the year at which it ought, if successful, to have been as far as the Aleutian Islands in the Pacific.

The coast of Nova Zembla could not be approached on account of the ice. They turned their faces southward, and arrived at the northern shore of Waigatz, where they landed, but could find neither men nor houses.

On the south side of Waigatz, they had some intercourse

with the Samoyedes. From them they learned that five days' sailing from thence to the north-east would bring them to a point of land, beyond which there was a great sea stretching to the south-east. This was considered as joyful information, as it fell in exactly with their notions of the direction of the passage to China. They parted with these people on friendly terms, but the Dutch having taken into their boat one of the carved images, a Samoyede came after them to fetch it, and found means of signifying that they had not done well in carrying it off, on which it was returned, and the Samoyede carried it to a hill, and replaced it among several hundreds of the same kind.

Some of the crew landed on the main shore to seek for stones, which are stated to be a kind of diamond. As two of the men were lying together, "a great lean white bear came suddenly stealing out, and caught one of them fast by the neck, who, not knowing what it was that took him by the neck, cried out and said, 'Who is that that pulls me so by the neck?' wherewith the other, that lay not farre from him, lifted up his head to see who it was, and perceiving it to be a monstrous bear, cried out and said, 'Oh mate! it is a bear!' and therewith presently rose up and ran away."

The bear instantly bit in sunder the head of the man he had caught, "and suckt out his blood;" and on being attacked by about twenty people, some with pikes, and others with muskets, she turned furiously upon the party, seized upon one of them, whom she tore in pieces, and all the rest ran away.

The people on board, perceiving what had happened, landed, and about thirty made an attack on this furious animal. The purser shot her in the head between the eyes, which did not make her let go her hold of the dead man, but she lifted up her head with the dead man in her mouth; on perceiving, however, that she began to stagger, the purser and a Scotchman drew out their cutlasses, and

struck her with such force, that both weapons broke; still she held fast her prey, till one William Geysen felled her to the ground by striking with all his might with his musket upon her snout, when they contrived to despatch her by cutting her throat.

Finding it impossible, on account of the great quantity of ice, to make any progress in the Tartarian sea, and "the weather being mistie, melancholy, and snowie," they drove with the current back again through the strait, and on the 15th of September the whole fleet took their departure from Waigatz. On the 29th they entered Wardhuys, from whence they sailed again on the 10th of October, and on the 18th of November arrived in the Maes.

This unlucky voyage, for which such great preparation had been made, seems to have cooled the enthusiasm of the States General for the discovery of a North-east Passage. They did not quite retire from the field, however. A proclamation was issued, promising a reward to any one who would accomplish a voyage to China by this route.

The prospect of a reward stirred up the merchants of Amsterdam. They fitted out two ships, one of which was commanded by Jacob Van Heemskerke, the chief pilot being William Barentz. The master of the other ship was Cornelis Ryp.

The expedition sailed from Amsterdam on the 10th of May, 1596. On the 1st of June they had no night, and three days after they saw a strange sight in the heavens. It was two parhelia, or mock suns. "On each side of the sun there was another sun, and two rainbows, that passed clean through the three suns, and then two rainbows more, the one compassing round about the suns, and the other cross through the great rundle; the great rundle standing with the uttermost point elevated above the horizon 28°."

On the 5th they fell in with the first ice: it was in fleecy, detached pieces, and some of the crew, being imagi-

native, took it for white swans. On the 7th they were in latitude 74° , sailing through the ice "as if between two lands." On the 9th they arrived at Bear Island—afterwards called Cherry Island—and here they killed a bear, whose skin measured twelve feet in length. On the 19th they found by observation that they had reached latitude $80^{\circ} 11'$, at which time they had much land to the eastward. On this coast they killed another bear, though it fought hard to save its skin, which was thirteen feet long.

On a small island they found multitudes of eggs of certain red geese: the parent birds, when driven away, cried, *Rot, rot, rot*.* "These geese," says De Veer, the author of the Dutch account of the voyage, "were of a perfect red colour, such as come into Holland about Weiringen, and every year are there taken in abundance, but till this time it was never known that they hatched their eggs: so that some men have taken upon them to write that they sit upon trees in Scotland that hang over the water, and such eggs as fall from them down into the water become young geese, and swim there out of the water; but those that fall upon the land burst in sunder and are lost." This fable of the barnacles is thus, in the opinion of De Veer, for the first time refuted, and, he continues, "it is not to be wondered at that no man could tell where they breed their eggs, for that no man that ever we knew had ever been under 80° : nor that land under 80° was never set down in any card, much lesse the red geese that breed therein." This is, unquestionably, the first discovery of Spitzbergen.

De Veer does not exactly state that they were unable to proceed higher to the northward, though a good deal of ice appeared around them. By their latitude, it would seem they were off Amsterdam Island, on which is that famous foreland, since so well known to whalers under the name of Hakluyt's Headland. From hence they steered south-

* That is, *Red, red, red*.

west to avoid the ice, and on the 1st of July were again opposite to Bear Island. Here the ships mutually agreed to part company, Jan Cornelis being of opinion that he should find a passage to the eastward of that land which lay under 80° , and accordingly returned to the northward; while Jacob Van Heemskerke, or rather his pilot Barentz, deeming it more likely to find the passage to the eastward in a lower parallel, steered for Waigatz Strait.

The latter vessel, after a long passage, occasioned by bad weather, contrary winds, and much floating ice, reached the coast of Nova Zembla on the 17th of July, about Lomsbay. She then stood to the northward, as near to the land as the ice would permit. It was not before the 6th of August that they succeeded in doubling Point Nassau; and the wind being from the east, they were glad to make the ship fast to a mass of ice thirty-six fathoms under water, and sixteen fathoms above it; this iceberg is stated to have suddenly been rent in pieces, "for with one great cracke it burst into foure hundred pieces at the least." Besides this mass, the sea was covered with flake ice and various other icebergs, but none quite so large.

In vain they struggled to get to the eastward; the wind blew strong from that quarter, bringing with it immense patches of ice. Finding all their attempts ineffectual, they were at length reluctantly compelled to return; the ship, indeed, was generally beset in the ice, and, while drifting with it, the rudder was broken in pieces, the boat crushed flat between the ice, and they expected every moment that a similar fate would befall the ship. It was now evident that every hope was cut off, not only from the possibility of proceeding farther to the eastward, but also of reaching Waigatz by the eastern coast of Nova Zembla; they therefore attempted to get back by the way they had come. On the 26th, with great exertion, they had so far succeeded as to reach the western side of Ice Haven; but it had nearly been to them a fatal success: "for in this dismal spot,"

says De Veer, "we were forced, in great poverty, misery, and grief, to stay all that winter."

The prevailing north-easterly winds brought prodigious quantities of ice into the bay, and the ship was so damaged that the crew could hardly hope to see her afloat again. They determined to abandon her, and prepare for passing the cheerless months of winter. Fortunately they found, at no great distance, enough driftwood not only to build a capacious house, but to serve for fuel. But just when he could least be spared the carpenter died, and the house had to be put together by very unskilful hands.

The journal of the proceedings of these poor people, sixteen in number, during "this cold, comfortless, dark, and dreadful winter," is intensely and painfully interesting. No murmur escaped them, and such a spirit of true piety and resignation to Divine will breathes through the whole narrative, that one cannot read the simple tale of their sufferings without the deepest emotion.

On the 4th of November the last feeble rays of the sun left them, and from that time the cold increased until it became so intense as to be nearly beyond endurance. The wine and beer saved out of the ship froze, except a small portion of each which was not drinkable. By means of large fires of wood, by placing heated stones to their feet, and using double clothing and fox-skin caps, they were just able to keep themselves from being frozen. It was a dreadful task to go out in search of driftwood, and to haul it on a sled over ice and snow, and sometimes in such piercing weather as to take the skin off their hands and faces. They once had resource to coals on board the vessel, but the fire made with these had nearly suffocated the whole party. Their clock soon became frozen, and it was then necessary for some of them, by turns, constantly to watch the hour-glass, that they might not mistake the time.

Being frequently attacked by bears, which assaulted their

wooden hut, and opposed them whenever they stirred abroad, they found means to kill several of these ferocious animals, and used their fat for their lamps; from a single bear they extracted about a hundred pounds of grease. Finding the liver of this animal palatable food, they ate heartily of it, but it made them all sick; and three of the party were so ill in consequence that the skin came off their bodies from head to foot.

It deserves to be remarked that when the sun disappeared the bears immediately took leave of them; and their place was speedily supplied by white foxes, which came in great abundance, and served them both as food and clothing, their flesh tasting like that of rabbits. By setting traps on the roof of their house they caught abundance of these useful animals; but immediately after the re-appearance of the sun the foxes took their departure and the bears again renewed their visits.

When the 19th of December arrived these unhappy men began to receive consolation at the thought that half the total absence of the sun had now been got over. Miserable as their situation was, and to all appearance perfectly hopeless, they could even jest and make themselves merry.

"On Christmas Day," says De Veer, "it was foul weather, with a north-west wind, and yet though it was foul weather we heard the foxes run over our house, where-with some of our men said it was an ill sign; and while we sat disputing why it should be an ill sign, some of our men made answer that it was an ill sign because we could not take them to put them into the pot to roast them, for that had been a very good sign for us." And after labouring hard all the day of the 5th of January in digging away the snow that had for several days blocked up their door, and cleaned out their hut, "we remembered ourselves," says the narrator, "that it was Twelfth Even, and then we prayed our Master that we might be merry that night, and said that we were content to spend some of the wine that

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IN NOVA ZEMBLA.

Ice-World Adventures.

[Page 91.]

night which we had spared, and which was our share every second day, and whereof for certain days we had not drunk; and so that night we made merry and drunk to the three kings, and therewith we had the pound of meal whereof we made pancakes with oil, and every man a white biscuit, which we sopped in wine: and so supposing that we were in our own country and amongst our friends, it comforted us as well as if we had made a great banquet in our own house; and we also made tickets, and our gunner was king of Nova Zembla, which is at least two hundred miles long, and lieth between two seas."

The raptures felt by these unhappy men at the first blush of the sun may easily be conceived. This joyful event was first announced to them about the 16th of January, when they saw "a certain redness in the sky." On the 24th "the edge of the sun" was seen, and on the 27th they saw the sun "in his full roundness."

The accuracy of the Dutch journalist respecting the reappearance of the sun has been called in question by most philosophers and astronomers who have adverted to this account, but it has also had its defenders. It is not improbable that after the freezing of the clock, and in the darkness of a long night, they might have lost some time, and extraordinary circumstances of atmospheric refraction must also be taken into account. Under ordinary circumstances of refraction the appearance of the sun would seem to have been premature by seven or eight days.

The bears returned with the light of the sun, and, refreshed by their long sleep, were more troublesome than ever. The cold became more intense as the days lengthened, the frost more severe, and the snow more frequent, so that it was the month of June before they could set about repairing their two boats, and fitting them for a long voyage from their dreary place of residence. To repair the ship was out of the question, as she was complete'y bilged and still fast in the ice.

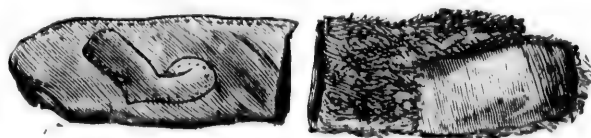
On the 13th of that month everything was in readiness for their departure; previous to which a statement was drawn up in writing by Barentz, and left in the wooden house, containing their names, detailing their late misfortunes and what had befallen them in that wretched abode; after which, committing themselves to the will and mercy of God, they left their Icy Haven in the two open boats, with a view to return the way they had come, along the western shores of Nova Zembla. They had not proceeded far, however, before a misfortune befel them which overwhelmed them all with grief and despair. Poor Barentz, in whom all their confidence had rested, died on the 20th of June; being ill when they left their house, he and another of the name of Claes Adrianson, had been obliged to be taken to the boats on a sledge. On being told that Adrianson was so sick that he could not live, William Barentz spake and said, "I thinke I shal not live long after him." He then said to Do Veer, "'Gerrit, give me some drinke;' and he had no sooner drunke but he was taken with so sodain a qualme that he turned his eyes in his head and died." The same day Adrianson died also.

There are numerous instances on record of extraordinary voyages being performed in rough and tempestuous seas in open boats, with the most scanty supply of provisions and water, but instances are rare where fifteen persons, in two open boats, had to pass over a frozen ocean more than eleven hundred miles, "in the ice, over the ice, and through the sea," exposed to all the dangers of being one time overwhelmed by the waves, at another of being crushed to atoms by the whirling of large masses of ice, and to the constant attack of ferocious bears, enduring for upwards of forty days severe cold, fatigue, famine, and disease. But, excepting the two who died, and who entered the boats in a state of sickness and debility, the rest arrived in good health and spirits at Cola, where they had the satisfaction of meeting with their old friend and companion

Jan Cornelius Ryp, who had deserted them to go to the northward the year before. He now took them on board his ship, and on the 29th of October they all arrived safely in the Maes, to the great joy of their friends, who had given them up for lost.

To what extent of northern latitude Cornelius Ryp had proceeded the preceding year, or what adventures he met with, or discoveries he made, is nowhere stated; but as he set out with the intention of sailing along the eastern side of the land they had before coasted, to 80° of latitude, it is probable that he circumnavigated Spitzbergen, in which case he must have reached 81° N. lat.

The Dutch seem to have had enough for a little while of arctic exploration. The celebrated Hudson, however, was employed by them on a voyage of discovery in the beginning of the seventeenth century. The written account of his expedition, which has come down to us, is very long and very uninteresting. One can hardly make out from it what Hudson's principal object was in undertaking it. He first doubled the North Cape, as if going in quest of a North-east Passage; but presently, without any reason being assigned, turned back to the westward, passing the Faroe Islands, and proceeded to Newfoundland; from thence he directed his course down the coast of America, as far as Charlestown, then back again to Cape Cod; and finally discovered Hudson's River, which he entered, and on the banks of which the Dutch afterwards founded a settlement.



A LEATHER AND A SEALSKIN MIT.

CHAPTER VII.

ARCTIC EXPLORATION BY SOUTHERN NATIONS.

THE BROTHERS ZENO—CAST AWAY IN A STORM—A COURTEOUS CHIEFTAIN—A WARLIKE EXPEDITION—A MONASTERY AND A VOLCANO—THE DEATH OF NICOLO ZENO—FOUNDING A CITY—HISTORIC DOUBTS—CHRISTOPHER COLUMBUS IN THE NORTHERN SEAS—PORTUGUESE EXPLORATION—THE VOYAGES OF THE CORTEREALS—THE SPURIOUS VOYAGE OF MALDONADO—JUAN DE FUCA'S EXPEDITION.

THE extraordinary adventures of two brothers Nicolo and Antonio of Venice, in the northern seas, at the close of the fourteenth century, were first published in 1558. They are stated to have been drawn up from the letters sent by Antonio Zeno to his eldest brother Carlo, and delivered to Marcolini for publication by a descendant of the Zeno family, who laments the imperfect state into which they had fallen, by his ignorance of their importance at a time when he was incapable of exercising a judgment on their contents, and by his carelessly and thoughtlessly destroying some of them.

From this circumstance it is evident that great allowances must be made for what may appear to be inaccurate or mysterious; but the relation, as we have it in its mutilated state, contains so much curious and correct description, and so many interesting discoveries, that it must always maintain its ground as one of the most important in the history of early navigation. From this relation, it appears that Nicolo, being desirous of seeing foreign countries, fitted out a ship at his own expense, and passed the Straits of Gibraltar, intending to visit England and the Low Countries. On the voyage a violent storm arose, and his vessel was cast away on the coast of a large island called Frisland. He and his crew were violently attacked by the

natives, but they were saved from destruction by the kindly interference of a chieftain of the name of Zichmni. Nicolò at once placed himself and his people under Zichmni's protection.

The Frisland chieftain was eager after maritime glory, and seeing that Nicolò was possessed of good sense and was experienced in sea affairs, he engaged him in an expedition to the westward. The fleet consisted of thirteen vessels. They took possession of several islands, and not without fighting, during which the Venetians distinguished themselves by their valour.

On returning to Frisland, Nicolò was made captain of Zichmni's fleet, and he was so well pleased with the honours bestowed on him, that he wrote to his brother Antonio to join him. Antonio therefore fitted out a ship and proceeded thither. Nicolò in the meantime was again sent out on an expedition against Estland, which is situated between Frisland and Norway. After this he attacked and plundered seven other islands, on one of which he built a fort. In the following year, having fitted out three ships, he set sail in July towards the north, and arrived in "Engroneland," where he found a monastery of predicant friars, dedicated to Saint Thomas, and situated close to a mountain, which threw out flames like Vesuvius and Etna.

There was besides in this place a fountain of hot water, with which the church of the monastery and the chambers of the friars were heated, and which was also brought into the kitchen so boiling hot, that no other fire was made use of for dressing their victuals; and by putting their bread into brass kettles without water, it became baked as well as if it had been in a heated oven. The friars had also little gardens, covered over during winter, which being watered with this water were defended against the snow and cold, which, in those parts, by reason of their situation so near the Pole, is most severe; and by these means the

friars produced flowers and fruits, and herbs of various sorts, just as well as in more temperate countries; so that the rude and savage people of those parts, seeing these supernatural effects, considered the friars as gods, and brought them presents of chickens, flesh, and other articles, and held them in the greatest awe and respect. When the frosts and snows were severe, the friars heated their houses in this manner, and tempered the heat and cold at pleasure. Their buildings were made of stones thrown out like burning cinders from the mountain. By throwing water on these stones they became excellent white lime: when cold and not dissolved with water, the friars shaped them with iron tools and used them in their buildings.

The winter is said to last for nine months. The friars ate wild fowl and fish, which frequented the neighbourhood on account of the hot spring. They kept vast numbers of people in employment, building, catching sea-fowl and fish, and doing a thousand other things connected with the monastery. The boats of the fishermen are described as being like a weaver's shuttle in shape, and made of the skins and bones of fish.

This curious account of Greenland is given by Nicolo to his brother Carlo. It appears that during his residence at this monastery, being unused to such severity of weather, Nicolo fell sick, and died shortly after his return into Frisland.

On the death of Nicolo, his brother Antonio succeeded to his property. He wished to return to his own country; but all his entreaties with Zichmni were unavailing; for Zichmni "had determined to make himself lord of the sea." At this time one of his fishermen returned to Frisland, after an absence of six and twenty years, and gave an account of his having been driven by a violent storm upon an island called Estotiland, about a thousand miles to the westward of Frisland.

He related that the island was well peopled; that a man

was brought to him who had likewise been shipwrecked, and who spoke Latin; that the island was nearly as large as Iceland, and more fertile, the people ingenious and skilled as artisans; that the prince had Latin books, but did not understand them; that they had gold, and all manner of metals; that they raised corn, made beer, traded with Greenland, from whence they procured furs, brimstone, and pitch; that their buildings were made of stone; that they had extensive woods, of which they built ships, and traded with a country to the southward called Drogio.

Zichmni, having heard this strange relation, which was confirmed by the crew who had come to Frisland with the fisherman, determined to set out with a great number of ships and men in search of these countries. Antonio Zeno accompanied him on this expedition.

As they proceeded to the westward, the first point they fell in with was called Icaria, and beyond this they came to another country, whose temperature is said to have been inexpressibly mild and pleasant. To the haven in which they anchored they gave the name of Trin. In the interior were great multitudes of people, half wild, hiding themselves in caverns, of small stature, and very timid. Zichmni, finding this place to have a wholesome and pure air, a fruitful soil, and fair rivers, was so delighted that he determined to take possession and build a city.

But his people began to murmur, and to express a desire to return, upon which he sent away Antonio to conduct back to Frisland all those who were unwilling to stay. They sailed for the space of twenty days to the eastward without seeing any land; then south-east for five days, when they perceived the island of Neome, and, taking in fresh provisions, in three days more reached Frisland.

"What followed after the letter containing this intelligence," observes the narrator, "I know not;" but from a piece of another letter of Antonio, it would appear that

Zichmni built a tower near the harbour on the island which he had discovered.

The more the narrative of the two Zenos has been scrutinized, the stronger has the internal evidence appeared in favour of its general veracity. The great difficulty, however, among geographers was that of assigning a proper position to the island of Frisland; a name which occurs in the life of Christopher Columbus, and is placed by Fro-bisher as the southern extremity of Greenland. Ortelius maintained that it was a certain part of the coast of North America; Delisle and some others supposed that Buss Island, to the south of Iceland, was the remains of Frisland, which had been swallowed up by an earthquake; and others again cut the matter short by considering the existence of the land, and even the whole voyage of the two Zenos, as a fiction. But M. Buache and M. Eggers have gone far to prove the truth of the narrative on two different grounds; the former having shown that the geographical position of Frisland corresponds with the cluster of the Feroe Islands; and the latter that the names given by Zeno correspond pretty nearly with the modern names of those islands.

The extraordinary discoveries of the Portuguese in the 15th century, but that of all others which opened them a route to India round the Cape of Good Hope, aroused the cupidity of some, and the curiosity of all, of the nations of Europe. They also excited that spirit of enterprise in England, which, though it might sometimes languish, was never wholly extinguished, and which, indeed, is not likely ever to be extinguished so long as any part, however obscure or remote, of the globe we inhabit remains to be discovered.

The Italians were the most skilful navigators of those days; and among the foreigners who had engaged in the Portuguese service was a Genoese by birth, named Christavol Colon or Christopher Columbus, who, at the early age

of fourteen, had betaken himself to a seafaring life, and had made considerable progress in geometry, cosmography, and astronomy. His first voyage, after leaving the Mediterranean, appears to have been into the northern seas, in which it is stated, in a memorandum written by himself, that he had visited Iceland, with which a considerable trade was then carried on, particularly by the northern nations, and among others by England. It is even said that he proceeded beyond this island, and advanced several degrees within the polar circle, but on what service and for what purpose does not appear. It would have been satisfactory to know whether it was a mere trading voyage, or a voyage of discovery, that led this celebrated navigator into those inhospitable regions; but there is little reason to hope that any further information will ever be obtained on this head.

The Portuguese, not content with having discovered a route to India by sailing round the tempestuous extremity of Africa, soon after engaged in an equally dangerous enterprise,—that of finding a route to India and the Spice Islands, by sailing westward round the northern extremity of America.

This bold undertaking was reserved for the Cortereals, the enlightened disciples of the school of Sagres. The first navigator of the name of Cortereal who engaged in this enterprise, was John Vaz Costa Cortereal, a gentleman of the household of the Infanta Don Fernando—who, accompanied by Alvaro Martens Hornen, explored the northern seas, by order of King Alfonso the Fifth, and came upon the Terra de Baccalhaos (the land of cod-fish), afterwards called Newfoundland. The date of this voyage appears to have been 1463 or 1464; but, like many other facts in those early days, it is a little uncertain.

No one seems to have attempted on the part of Portugal to explore those seas navigated by John Vaz Cortereal until the time of his son Gaspar Cortereal.

The two ships which had been prepared for this voyage sailed from Lisbon in the summer of 1500. They reached the Azores or Western Islands, and then steered till they discovered land to the northward, to which they gave the name of Terra Verde—that is, Greenland.

In the first collection of voyages which is known to have been published in Europe—printed in Vicenza, by Franczazo Montaboldo—there is a letter describing the details of the voyage of Cortereal, as told by himself on his return.

From this authority it appears that, having employed nearly a year in this voyage, he discovered between west and northwest a continent until then unknown to the rest of the world; that he ran along the coast upwards of eight hundred miles; that according to his conjecture this land lay near a region formerly approached by the Venetians, almost at the North Pole; and that he was unable to proceed farther on account of the great mountains of ice which encumbered the sea, and the continued snows which fell from the sky.

The letter further relates that Cortereal brought fifty-seven of the natives in his vessels; it extols the country on account of the timber which it produces, the abundance of fish upon its coasts, and speaks also of the inhabitants, who, it says, were robust and laborious.

This great country discovered by Cortereal is evidently that which at present is known under the name of Labrador.

As Gaspar Cortereal was fully persuaded that a northwest passage to India might be found, and that its discovery would be honourable to himself and highly advantageous to his country, he made preparations for a second expedition, to which he had no difficulty in obtaining the king's consent; and he sailed accompanied by the anxious prayers and hopes of his countrymen, from the port of Lisbon, on the 15th of May, 1501, with two vessels.

The voyage is said to have been prosperous until they reached Terra Verde; but here he was separated by bad weather from his consort, who, after having long searched and waited for him in vain, returned to Lisbon, with the tidings of what had happened.

Michael Cortereal, grand door-keeper of the king Don Manuel, saw himself thus deprived of a brother whom he dearly loved. He determined to set out himself in search of him, and sailed with three vessels from Lisbon on the 10th of May, 1502.

They reached the coast, and discovered many rivers and openings, and each vessel entered a separate one with the understanding that they should all meet at a certain point on the 20th of August. The appointed day arrived; two of the vessels met, but Miguel de Cortereal never appeared. Nothing was ever heard of him.

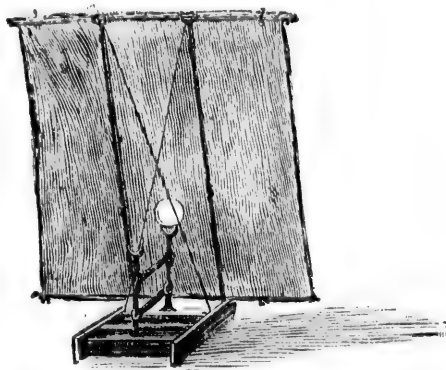
When these two vessels returned to Lisbon with the melancholy news of the loss of this second Cortereal, there remained yet a third brother, Vasco Eanes, master of the household, and one of the privy council of King Don Manuel, who immediately prepared to set out in search of his lost brothers; but no entreaty, no influence, could obtain the king's consent, who constantly replied that in this undertaking he had already lost two of his most faithful servants and valued friends, and was resolved at least to preserve the third; he very readily, however, granted leave for other vessels being prepared and despatched on this search, but they also returned without any intelligence of the unfortunate navigators.

Notwithstanding these disasters, the voyages were productive of great advantages to Portugal; they led to the establishment of a settlement on Newfoundland and to the prosecution of very extensive fisheries. But when Portugal passed under the dominion of Spain, her commerce languished and her marine was destroyed, from the combined effect of domestic oppression and foreign

war, and her connection with Newfoundland soon came to an end.

We come now to a spurious voyage, that of Maldonado, a Spanish navigator, in 1588. The journal of this voyage is a bold piece of geographical imposture. It professes to give an account of an expedition in which Maldonado effected a passage by the north-west from the Atlantic to the Pacific and back again the following year. The statements are on the whole very circumstantial, but they are likely to deceive no one who knows anything of the subject. When it was written the voyage of Maldonado might have been considered a joke; at best it was a very ponderous one.

In 1592 a real Spanish expedition took place under the command of Juan de Fuca. He was despatched to discover the supposed Strait of Anian. According to his own account he followed the coast till he found an opening. Up this he sailed in various directions for twenty days; when, finding it to be so wide for twenty or thirty leagues within the strait as to make him suppose that it really would afford that passage of which he was in search, he thought he had discharged his duty and so returned.



A SCREEN USED IN SHOOTING SEALS.

CHAPTER VIII.

ENGLISH VOYAGES IN SEARCH OF A NORTH-EAST PASSAGE.

SEBASTIAN CABOT'S RETURN TO ENGLAND—SIR HUGH WILLOUGHBY'S EXPEDITION OF 1553—CABOT'S INSTRUCTIONS—THE SAD END OF WILLOUGHBY AND HIS CREW—RICHARD CHANCELOR'S VOYAGE—ENGLAND'S FIRST ACQUAINTANCE WITH RUSSIA—A LONG BEARD—STEVEN BURROUGH'S VOYAGE IN 1556—A MONSTROUS WHALE—VARIOUS DISCOVERIES—TREATING WITH THE CZAR—ILL-LUCK AT SEA—HUDSON'S VOYAGE IN 1608—FIRST IMPRESSIONS OF NOVA ZEMBLA—WOOD AND FLAWE'S VOYAGE IN 1676—A SHIP'S CREW IN DISTRESS.

DURING the first half of the sixteenth century the attention of the merchants of England engaged in foreign trade seems to have been confined to a somewhat narrow sphere. But the return of Sebastian Cabot,—to whose discovery of Newfoundland we have already alluded on page 46,—and the knowledge of his great enterprises in the service of Spain, infused into the minds of the merchants of our country a spirit of enlarged adventure. The reputation of this able navigator was so firmly established on his return, that, in addition to the liberal pension granted to him by Edward VI., he was constituted Grand Pilot of England, and "governour of the mysterie and companie of the marchants adventurers for the discoverie of regions, dominions, islands, and places unknownen."

It was at his suggestion that a voyage was undertaken in the year 1553 for the discovery of a North-east Passage to China; and the ordinances and instructions drawn up by him on this occasion are such as to do him infinite honour, not only for the chaste style in which they are written, but also for the liberal and enlightened sentiments which run throughout this early performance.

The ships fitted out for the expedition of discovery were the *Bona Esperanza*, admiral of the fleet, of the burden of 120 tons, having with her a pinnace boat; the *Edward Bonaventure*, of 160 tons; and the *Bona Confidentia*, of 90 tons. On board the first was Sir Hugh Willoughby, captain-general of the fleet; the command of the second was given to Richard Chancellor, Steven Burough being master; and Cornelius Durfoorth was master on board the third. The number of persons in the first ship was thirty-five, including six merchants; in the second fifty, including two merchants; and in the third twenty-eight, including three merchants.

This expedition excited the most lively interest both in the court and in the capital. So sanguine were the promoters of the voyage of their actually reaching the Indian seas, that they caused the ships to be sheathed with lead, as a protection against the worms which it was understood destructive of wooden sheathing in the Indian climate.

Cabot's instructions did not relate to the scientific part of the voyage alone, but took cognisance of the minutest details of discipline. Thus one clause directs: "That no blaspheming of God, or detestable swearing, be used in any ship, nor communication of ribaldry, filthy tales, or ungodly talk be suffered in the company of any ship; neither dicing, tabling, carding, or other devilish games to be frequented, whereby ensue, not only poverty to the players, but also strife, variance, brawling, fighting, and often times murder, to the destruction of the parties and provoking of God's wrath and sword of vengeance." Prayers too were to be read morning and evening on board each ship either by the chaplain or master.

All acts were prohibited which had a tendency to a breach of discipline, and the instructions on this point were no doubt highly necessary in an age when naval subordination was but imperfectly established. Questions connected with the steering of the ship were to be decided by a

council of twelve, the captain having a double vote. A daily record of the course of navigation was ordered to be taken, together with celestial observations, the aspect of the lands along which they sailed, and every interesting occurrence. The masters of the different ships were to meet weekly, compare their records, and enter the result in a common ledger.

Various directions were drawn up for adjusting weekly accounts, keeping the cook-room and other parts of the ship clean, and preventing liquor from being spilled upon them.

The mariners were instructed to treat the natives of countries which they visited with consideration, gentleness, and courtesy, and without any "disdain, laughing, or contempt." All fair means were to be used for alluring them on board, where they were to be clothed and well-treated, and it was hinted that it would be well to intoxicate them in order to get at their secrets.

The sailors' uniforms were to be used only on particular occasions, when it was desirable to show them off "in good array for the advancement and honour of the voyage." The mariners were told not to be afraid when they saw the natives of any place dressed in lions' and bears' skins, with long bows and arrows, as this formidable appearance was often assumed merely to inspire terror. They were also instructed that there were persons armed with bows, who swam naked, in various seas, havens, and rivers, "desirous of the bodies of men, which they covet for meat; and against whom it was necessary to keep diligent watch night and day." It has been conjectured that some confused rumours of the shark and alligator had an influence in suggesting this strange advice.

Cabot's instructions conclude by assuring the explorers of their great likelihood of succeeding in their enterprise, adducing the examples of the Spaniards and Portuguese, who had, to the great wealth of their nations, discovered

lands in places previously considered uninhabitable "for extremities of heats and colds, and yet, when tried, found most rich, well-peopled, temperate, and so commodious that all Europe hath not the like."

From the account of the voyage, written by Clement Adams, "schoolemaster to the Queene's henshmen," it would appear that several persons of great experience were candidates for the command, but that Sir Hugh Willoughby, a valiant gentleman and well born, was preferred before all others, "both by reason of his goodly personage (for he was of tall stature) as also for his singular skill in the services of warre."

On the day appointed for the sailing of the expedition from Ratcliffe, which was the 20th of May, "they saluted their acquaintance, one his wife, another his children, and another his kinsfolkes, and another his friends deerer than his kinsfolkes;" after which the ships dropped down to Greenwich, where the court then was. The great ships were towed down by the boats, "the marriners being all apparellled in watchet or skie-coloured cloth. The courtiers came running out, and the common people flockt together, standing very thicke upon the shoare; the Privie Consel, they lookt out at the windowes of the court, and the rest ranne up to the toppes of the towers; the shippes here-upon discharge their ordinance, and shoot off their pieces after the maner of warre, and of the sea, insomuch that the tops of the hills sounded therewith."

The result of this voyage, which held out such fair promises, was most disastrous to the gallant Sir Hugh Willoughby and his brave associates.

The *Bona Esperanza* and the *Bona Confidentia* separated from Richard Chanceior's vessel, and cast anchor in a bay near the mouth of a river now called by the Russians the Varsina. At first Willoughby merely intended to wait there for a favourable wind to pursue his voyage. Extreme cold weather, however, set in, and he made up his

mind to winter there. This we learn from the last entry in his journal, written about the beginning of October, in the following words:—

“Thus remaining in this haven the space of a week, and seeing the year far spent, and also very evil weather,—as frost, snow, hail, as though it had been the deep of winter,—we thought best to winter there. Wherefore we set out three men south-south-west, to search if they could find people, who went three days’ journey, but could find none; after that we sent other three westward four days’ journey, which also returned without finding people; then sent we three men south-east three days’ journey, who in like sort returned without finding of people, or any similitude of habitation.”

At that time the English had no idea of the severity of a northern winter; and consequently the discovery ships were unprovided with the means of guarding against it. The crews of the two ships, six merchants, two surgeons, and Sir Hugh Willoughby—in all about seventy men—were frozen to death.*

The commander of the expedition and some others were alive in January, 1554,—we learn as much by a signature of Willoughby attached to his will,—and they may have been rejoiced by a glimpse of the sun at midday: but what a scene of horror it shone upon! The poet Thomson has pathetically lamented the fate of the unhappy explorers:—

“Miserable they!

Who here entangled in the gathering ice,
Take their last look of the descending sun;
While, full of death, and fierce with tenfold frost,
The long, long night, incumbent o’er their heads,
Falls horrible! Such was the Briton’s fate,
As with first prow (what have not Britons dared?)
He for the Passage sought, attempted since
So much in vain, and seeming to be shut
By jealous nature with eternal bar.

* About the same time Sir Hugh Willoughby’s grand-niece and many of his relations perished on the scaffold.

In these fell regions, in Arzina caught,
And to the stony deep his idle ship
Immediate sealed, he with his hapless crew,
Each full exerted at his several task,
Froze into statues; to the cordage glued
The sailor, and the pilot to the helm."

In the spring of 1555 some Laplanders found Willoughby's ships uninjured, with their crews still frozen. The news being conveyed to the czar he ordered them to be brought to the Dwina, and their cargoes preserved under seal for the benefit of the English owners.

It is strange that about such an illustrious character as Sir Hugh Willoughby very little information has been preserved. A portrait of him used to be at Woolaton, in Nottinghamshire. It was a full length, in very large breeches, as was the fashion in his day. Sir Hugh was represented by the artist as of a very meagre appearance, and the servant who acted as showman about the mansion used to say that he was painted just as he had been found starved.

A better fortune attended Master Richard Chancellor, in the *Edward Bonaventure*, who succeeded in reaching Wardhuys, in Norway, the appointed *rendezvous* of the little squadron. Here he waited seven days, looking in vain for his consorts, and was preparing to depart, when meeting with "certaine Scottishmen" they earnestly attempted to dissuade him from the further prosecution of the voyage, magnifying the danger and using every effort to prevent his proceeding; but he was not to be discouraged, and resolutely determined "either to bring that to pass which was intended, or else to die the death."

Accordingly, on setting out again, "he held on his course towards that unknown part of the world, and sailed so far that he came at last to the place where he found no night at all, but a continual light and brightness of the sun shining clearly upon the huge and mighty sea." At length he entered into a very great bay, and seeing a fishing-boat,

inquired of the people "what country it was, and what people, and of what manner of living they were;" but the men seeing the large ship were greatly alarmed and fled. At last, however, they were overtaken, and immediately fell on their knees, offering to kiss Master Chancellor's feet. The report being spread abroad of the arrival of a strange people, "of singular gentleness and courtesy," the inhabitants brought them presents of provisions, and entered readily and fearlessly into trade with them.

Our navigators now learned that the name of the country was Russia or Muscovy, and that of their king Juan Vasilovich, who "ruled and governed far and wide in those places." Negotiation speedily commenced, the result of which was a journey, undertaken by Master Chancellor, of nearly fifteen hundred miles, to a city called Moscow, where he was well received; and to his discreet and able representations England is indebted for the firm foundation of that commerce with Russia, which has continued almost without interruption ever since.

The first interview with the czar was extremely curious. The adventurers were received with every mark of distinction, and were invited to a splendid entertainment at which the czar and all his nobles were present. The display of gold and silver, jewels, and rich robes, quite astonished the English travellers. The emperor treated them haughtily, but Chancellor, like a true-born Englishman, saluted him only in the manner of the court at home.

On the second visit the czar condescended to be more familiar. "The prince," we are told, "called them to his table to receive each a cup from his hand to drink, and took into his hand Master George Killingworth's beard, which reached over the table, and pleasantly delivered it to the metropolitan, who, seeming to bless it, said in Russ, 'This is God's gift;' as indeed at that time it was not only thick, broad, and yellow coloured, but in length five feet and two inches of assize."

Shortly after this, Chancelor was sent with a proper escort to Archangel, with a letter from the czar addressed to Edward VI. He sailed from thence the following spring, and arrived safely in England.

The return of Chancelor, with a letter from the Czar Vasilovitch addressed to King Edward, and the prospect of vast profits which this extensive empire held forth, were considered to have amply compensated for the melancholy fate of Sir Hugh Willoughby, the supposed loss of the two ships, and the failure of the expedition in its main object. Philip and Mary, who had succeeded Edward VI., very readily granted a new charter "to the community of merchant adventurers," and made Sebastian Cabot governor thereof as long as he lived. Chancelor, Killingworth, and Richard Gray were appointed commissioners to treat with the Czar of Muscovy concerning the commercial privileges which he might be pleased to grant to the newly chartered company. The *Edward Bonaventure* and the *Philip and Mary* conveyed the commissioners to Archangel. From Archangel they were escorted to Moscow, where they were well received, and managed, we are told, to make their expedition profitable.

But though commerce was the immediate object of this second expedition, it was not the only one. By an article of their instructions, the adventurers were particularly directed to "use all ways and means possible to learn how men may pass from Russia, either by land or by sea, to Cathaia" (China). And so anxious was the company to follow up the attempt at finding a North-east Passage to the Indian seas, that, without waiting the result of Chancelor's second voyage, it was determined to fit out a small vessel the next year, 1556, to make discoveries by sea to the eastward. Steven Burrowe, or Burough, was appointed to command the *Serehtkriht* pinnace, fitted out for this purpose.

They left Gravesend on the 29th of April; on the 23rd of May passed the North Cape, so named on the first voyage,

and on the 9th of June entered the river Cola, and determined its latitude to be $65^{\circ} 48' N$.

One of the numerous Russian vessels called "Iodias," under the orders of one Gabriel, being bound for Petchora, led the way for the *Serchthrift* with great attention and civility until they came to that river, which they reached on the 15th of July. In proceeding to the eastward, they fell in with much ice, in which they were enclosed before they were aware of it, and "which was a fearful sight to see." In latitude $70^{\circ} 15'$ they again encountered heaps of ice.

On the 25th they met with an object which seems to have inspired greater terror even than the ice. It was the first whale that our navigators had met with, and the impression it made on the crew is rather amusing. "On St. James his day, bolting to the windwardes, we had the latitude at noon in seventy degrees twentie minutes. The same day, at a south-west sunne, there was a monstrous whale aboard of us, so neere to our side that we might have thrust a sworde or any other weapon in him, which we durst not doe for feare hee should have overthrowen our shippe; and then I called my company together, and all of us shouted, and with the cry that we made he departed from us; there was as much above water of his backe as the bredth of our pinnace, and at his falling downe he made such a terrible noise in the water, that a man would greatly have marvelled, except he had known the cause of it; but, God be thanked, we were quietly delivered of him."

The same day they came to an island which they named James's Island. Here they met with a Russian who had seen them at Cola, and who told them that the land ahead of them was called Nova Zembla, or the New Land. On the 31st they reached the island of Waigatz. Here they had intercourse with several Russians, and learned from them that the people who lived in the great island were

called Samoyedes, and that they had no houses but tents made of deer's skins. On landing, they saw a heap of Samoyedes' idols; there were at least three hundred of them, shaped like men, women, and children, "very grossly wrought, and the eyes and mouth of sundry of them were bloody." Some are described as being very unartistic, and nothing better than "an old stick with two or three notches."

They remained near this place till the 23rd of August, for the very good reason that they could not get farther eastward on account of unfavourable winds, thick weather, and abundance of ice. On the 10th of September they arrived at Colmagro, where they remained for the winter.

In 1557 Burough returned to England, and was afterwards made comptroller of the royal navy.

We return now to conclude the tale of the commissioners sent to treat with the czar. The monarch appointed an ambassador and orator to represent him at the court of London. The ambassador embarked at Archangel on the 20th of July, 1556, on board the *Edward Bonaventure*, under the direction of Richard Chancelor, grand pilot. The leading ship was accompanied by three others, the *Bona Speranza*, the *Philip and Mary*, and the *Confidentia*.

It was a disastrous voyage they made homeward. The *Confidentia* was wrecked on the coast of Norway, and all hands perished. The *Bona Speranza* wintered at Drontheim, and went to the bottom when on her way to England, and the *Edward Bonaventure*, after being four months at sea, came into Pitsligo Bay, on the east coast of Scotland, on the 10th of November, 1556, and was there wrecked, when, with great difficulty, the ambassador and a few of his attendants were saved; but Richard Chancelor, the grand pilot, and most of the crew were drowned. We are told by the writer of this unfortunate voyage, that "the whole masse and bodie of the goods laden in her was by the rude and ravenous people of the country there-

unto adjoining, rifled, spoyled, and carried away, to the manifest loss and utter destruction of all the lading of the said ship." The ambassador was conducted to London in great pomp, and the connection between the two nations was from that time drawn closer every year.

Having failed in his first voyage, noticed in another chapter, to find a passage to the Indies by the North Pole, Hudson was directed in 1608 to try his success in the discovery of a North-east Passage to the East Indies. His crew, on this voyage, consisted of fourteen men. On the 22nd of April he dropped down the river, and on the 3rd of June sighted the North Cape. In $75^{\circ} 29'$ Hudson first fell in with the ice and attempted to pass through it, but found it so thick and firm after proceeding four or five leagues, that it was thought prudent to return, which was effected with a few rubs of the ship against the ice. From the 9th to the 15th of June little progress was made on account of the ice and fog. On the latter day two of the crew saw a mermaid with a tail which was like "the taylor of a porposse, and speckled like a macrell."

About the end of June they arrived at Nova Zembla, and landed there. They found whalebone and deer's horns, and the party brought on board two dozen fowls and some eggs. The sea was full of morses, whales, and seals.

Finding little hope of a passage between New Land (Spitzbergen) and Nova Zembla, "my purpose," says Hudson, "was by the Waygats to passe by the mouth of the river Ob, and to double that way the North Cape of Tartaria, or to give reason wherefore it will not be." The quantity of morses, however, induced him to hope that they might defray the charge of the voyage; in the meantime a party was sent up a large river flowing from the north-eastward, to see if a passage could not be found that way into a more easterly sea; but having traced it to one fathom in depth they returned.

"Generally," says Hudson, "all the land of Nova

Zembla that yet wee have seen is to a man's eye a pleasant land; much main high land with no snow on it, looking in some places greene, and deer* feeding thereon; and the hills are partly covered with snow and partly bare." He adds, "It is no marvell that there is so much ice in the sea toward the Pole, so many sounds and rivers being in the lands of Nova Zembla and New Land to ingender it; besides the coasts of Peehora, Russia, and Greenland, with Lappia, as by proofes I finde by my travell in these parts; by meanes of which ice I suppose there will be no navigable passage this way." He therefore stood to the westward, "being out of hope to find passage by the north-east," and on the 26th of August arrived at home again.

The question of a North-eastern Passage was revived in 1676. It has generally happened, in this country, that some individual, more sanguine than the rest of the community, has, by his superior knowledge, greater exertions, or more constant perseverance, succeeded in bringing about a project which in less vigorous or pertinacious hands would have been suffered to die away. Captain John Wood appears to have been a man of this stamp; he was known as an active and experienced seaman, who had accompanied Sir John Narborough on his voyage through the Straits of Magellan; and he now stood forward as the warm advocate for the practicability of sailing by the northward or the north-eastward to the Indian seas and China,—an opinion which he supported in a memorial to the king, assigning seven distinct reasons and three arguments for the existence of such a passage.

His reasons and arguments, along with a map of the polar regions, were presented to his majesty and the Duke of York. At a meeting of the Board of Admiralty, at which the king, as usual in those days, was present, it was ordered that the *Speedwell* should be appropriated to this

* Hudson is the only navigator who mentions deer on Nova Zembla; and he was probably mistaken.



A NOVA ZEMBLA LANDSCAPE.

Ice-World Adventures.

service, and the command of her given to Captain Wood. And as all voyages of discovery are liable to accidents, the Duke of York, with several noblemen and gentlemen, purchased a pink of 120 tons, called the *Prosperous*, to accompany the *Speedwell*. To this pink Captain William Flawes was appointed as commander. Both ships were well equipped for the occasion, victualled for sixteen months, and supplied with such commodities as were likely to turn to the best account on the coast of Tartary and Japan.

The two ships sailed from the Nore on the 28th of May, 1676, and seem to have doubled the North Cape about the 19th of June, but the journal of Captain Wood is so meagre, that if it were not for his *supposed* latitude and his situation "according to judgment," it would be difficult even to guess at his track.

Making their way for some distance through floating ice, they came in sight of the west coast of Nova Zembla; that happened on the 26th of June. On the 29th they met with a catastrophe. On wearing the *Speedwell* to avoid the ice, she struck on a ledge of rock under water. The *Prosperous* pink was near at hand, but at the moment she could not lend the least assistance. The crew had scarcely succeeded in landing the bread and the carpenter's tools, to rebuild the long-boat in the event of the *Prosperous* being kept by the ice from approaching them, when the *Speedwell* went to pieces, and the fog prevented them from seeing their consort. All the crew, however, got safely on shore, except two who were drowned in the pinnace, and all the bread, powder, and provisions then in that boat were spoiled or lost. After the ship had gone to pieces, this loss was amply repaid, as several casks of flour, butter, beef, and pork were driven on shore, with spars and other articles, sufficient for making tents and for fuel. No human inhabitants made their appearance, but a great white bear seized hold of the gunner, who, by giving

immediate alarm, was saved from his jaws. The bear was quickly killed.

They remained on shore nine days, in a situation of the greatest anxiety, and but ill provided with provisions, ammunition, and clothing; and without seeing anything of the *Prosperous* on account of the foggy weather. At the end of this period it was proposed to set out by land towards Waigatz, in the hope of meeting with some Russian vessel to transport them to the continent; but, to their unspeakable joy, they espied the *Prosperous* on the 8th of July, on which they made a great fire to point out their situation; and on the same day the whole got safely on board that ship. It is not difficult to foresee what would have been the consequences to the whole party had they proceeded, for the boat could not carry above thirty men, and there were sixty-six in all. "This," Wood observes, "occasioned no small discontent among us, every one challenging the same right with the others; all I could do in this exigency was to let the brandy-bottle go round, which kept them always fox'd, till the 8th July (the ninth day after we had been on shore) Captain Flawes came so seasonably to our relief."

From this time the journal is continued by Captain Flawes; but as it contains only strictly nautical information, we may pass it by.

"With Wood's failure," says a learned writer, "seems to have closed the long list of unfortunate northern expeditions in that century; and the discovery, if not abandoned, was despaired of, by being so often missed, ceased to be a matter of years to be sought for."



AN ICE-DRUG.

CHAPTER IX.

ENGLISH VOYAGES IN SEARCH OF A NORTH- WEST PASSAGE.

THE VOYAGE OF THE *TRINITIE* AND THE *MINION* IN 1536—OLIVER DAW-
BENEY'S STORY—THE FRIGHTENED NATIVES—THE PAINS OF
HUNGER—A CANNIBAL SEAMAN—SPOILING THE FRENCH—NOT
KNOWING ONE'S OWN SON—JOHN DAVIS'S FIRST VOYAGE IN 1585—
THE LAND OF DESOLATION—MUSIC HATH CHARMS—VARIOUS DIS-
COVERIES—DAVIS'S SECOND VOYAGE IN 1586—THE NATIVES OF
GREENLAND—A GRUMBLING CREW—GREAT HOPES OF THE PASSAGE
—THE RETURN TO ENGLAND—DAVIS'S THIRD VOYAGE IN 1587—
HIS OPINION ABOUT THE NORTH-WEST PASSAGE.

THE earliest discoveries in the arctic seas were the result of accident or of a spirit of adventure. At last, however, came a time, as we have already seen, when these northern waters were ploughed by mariners impelled by an earnest spirit of enterprise directed to a different end. This end was the discovery of a short way by sea to the rich and attractive regions of India and China.

We have to speak here of the attempts made to discover the passage by sailing to the westward, and the first voyage we shall notice is that of the *Trinitie* and the *Minion*, in 1536.

This voyage was under the charge of Master Hore, of London, "a man of goodly stature, and of great courage, and given to the studie of cosmographie." Assisted by the king's favour, several gentlemen accompanied him in a voyage of discovery to the north-west parts of America. Many of them were of the Inns of Court and of Chancery; "and divers others of good worship, desirous to see the strange things of the world. The whole number that went in the two tall ships were about six-score persons, whereof thirty were gentlemen, which were

all mustered in warlike maner at Gravesend, and after the receiving of the sacrament they embarked themselves in the end of Aprill, 1536."

After a tedious passage of two months they reached Cape Breton in safety ; and shaping a course from thence to the north-east came to Penguin Island, "very full of rocks and stones, whereon they went and found it full of great fowles, white and gray, as big as geese, and they saw infinite numbers of their egges." These birds they skinned, and found to be good and nourishing meat, and the great store of bears, both black and white, was no mean resource, and, as we are told, not at all bad food.

Mr. Oliver Dawbeney, merchant of London, who was one of the adventurers on board the *Minion*, told Hakluyt the following curious circumstances relating to this early voyage.

"After their arrival in Newfoundland, and having been there certain days at anchor, and not having yet seen any of the natural people of the country, the said Dawbeney, walking one day on the hatches spied a boat with savages of those parts rowing down the bay towards them to gaze upon the ship and our people; and, taking view of their coming aloofe, he called to such as were under the hatches, and willed them to come up if they would see the natural people of the country, that they had so long and so much desired to see. Whereupon they came up and took view of the savages rowing towards them and their ship, and upon the view they manned out a ship-boat to meet them and to take them. But they, spying our shipboat making towards them, returned with main force, and fled into an island that lay up in the bay or river there, and our men pursued them into the island, and the savages fled and escaped; but our men found a fire and the side of a bear on a wooden spit left at the same by the savages that were fled.

"There, in the same place, they found a boot of leather

garnished on the outward side of the calf with certain brave trailes, as it were of raw silk, and found a certain great warm mitten. And, these carried with them, they returned to their ship, not finding the savages, nor seeing anything else besides the soil and the things growing in the same, which chiefly were store of fir and pine trees.

"And further the said Mr. Dawbeney told him, that lying there they grew into great want of victuals, and that there they found small relief, more than that they had from the nest of an osprey, that brought hourly to her young great plenty of divers sorts of fishes. But such was the famine that increased among them from day to day that they were forced to seek to relieve themselves of raw herbs and roots that they sought on the main; but the famine increasing, and the relief of herbs being to little purpose to satisfy their insatiable hunger, in the fields and deserts here and there, a fellow killed his mate while he stooped to take up a root for his relief, and cutting out pieces of his body whom he had murdered, broiled the same on the coals and greedily devoured them.

"By this means the company decreased, and the officers knew not what had become of them; and it fortuneed that one of the company, driven with hunger to seek abroad for relief, found out in the fields the savour of broiled flesh, and fell out with one for that he would suffer him and his fellows to starve, enjoying plenty as he thought; and this matter growing to cruel speeches, he that had the broiled meat burst out into these words: 'If thou wouldest needs know, the broiled meat I had was a piece of such a man's flesh.'

"The report of this brought to the ship, the captain found what became of those that were missing, and was persuaded that some of them were neither devoured with wild beasts, nor yet destroyed with savages; and hereupon he stood up and made a notable cration, containing how much these dealings offended the Almighty, and vouched

the Scriptures from first to last what God had, in cases of distress, done for them that called upon Him; and told them that the power of the Almighty was there no less than in all former times it had been. And added that if it had not pleased God to help them in that distress, it would have been better to have perished in body, and to have lived everlastingly, than to have relieved for a poor time their mortal body, and to be condemned everlastingly, both body and soul, to the unquenchable fire of hell. And thus having ended to that effect, he began to exhort to repentance, and besought all the company to pray that it might please God to look upon their present miserable state, and for His own mercy to relieve the same.

"The famine increasing, and the inconvenience of the men that were missing being found, they agreed among themselves, rather than all should perish, to cast lots who should be killed; but such was the mercy of God, that the same night there arrived a French ship in that port, well furnished with victuals, and such was the policy of the English that they became masters of the same, and changing ships and victualling, then they set sail to come into England.

"In their journey they were so far northwards, that they saw mighty islands of ice in the summer season, on which were hawks and other fowls to rest themselves, being weary of flying over-far from the main. They saw also certain great white fowls with red bills and red legs, somewhat bigger than herons, which they supposed to be storks.

"They arrived at St. Ives in Cornwall about the end of October; from thence they departed unto a certain castle belonging to Sir John Luttrell, where M. Thomas Buts, and M. Rastall, and other gentlemen of the voyage, were very friendly entertained; after that they came to the Earl of Bath at Bath, and thence to Bristol, so to London.

"M. Buts was so changed in the voyage with hunger

and misery, that Sir William his father, and my Lady his mother, knew him not to be their son, until they found a secret mark, which was a wart upon one of his knees, as he told me, Richard Hakluyt of Oxford, himself; to whom I rode 200 miles to learn the whole truth of this voyage from his own mouth, as being the only man now alive that was in this discovery.

"Certain months after, those Frenchmen came into England, and made complaint to King Henry VIII.; the king, causing the matter to be examined, and finding the great distress of his subjects were the cause of dealing so with the French, was so moved with pity, that he punished not his own subjects, but of his own purse made full and royal recompense unto the French.

"In this distress of famine, the English did somewhat relieve their vital spirits by drinking at the springs the fresh water out of certain wooden cups, out of which they had drunk their *aqua composita* before."

In the order of time we now arrive at the voyages of Frobisher, but these we have already discussed in the chapter "Seeking for Gold in the Arctic Regions." They were far more expeditions in search of wealth than for the prosecution of geographical research. After the return of the last of them, the merchants of London and of the west country felt satisfied of the likelihood of the discovery of the North-west Passage, and were sure that former adventures had been diverted from their main purpose by objects foreign to the original design, and resolved on a new expedition, whose sole motive should be that of discovery. Mr. John Davis, of Sandridge, in Devonshire, received the appointment of captain and chief pilot of this new enterprise. Two small barks, one called the *Sunshine*, and the other named the *Moonshine*, were put under his orders. In the first were twenty-three persons, of whom four were musicians; and in the latter nineteen.

They left Dartmouth on the 7th of June, 1585, and on

the 19th of July were among the ice on the western side of Greenland, where they heard "a mighty great roaring of the sea," which, on a closer examination in the boats, they found to proceed from the "rowling together of islands of ice." The next day, as they proceeded to the northward, the fog cleared away, and they perceived a rocky and mountainous land, in form of a sugar loaf, appearing as if above the clouds. The top was covered with snow, and the shore beset with ice a full league into the sea; and the whole surrounding aspect presented so "true a pattern of desolation," that Davis gave to it the name of "the Land of Desolation." Finding it impossible to reach the shore near this spot on account of the ice, Davis determined to return to the southward.

In standing along the coast he observed driftwood floating about daily, and the *Moonshine* picked up a tree "sixty feet long and fourteen handfuls about, having the roote upon it." The air was like April weather in England. It was cold only when the wind blew from the land or the ice; when it came over the open sea "it was very hote."

From this coast they stood off again to the north-westward for four days, when they saw land in latitude $64^{\circ} 15'$. It was an archipelago of islands, "among which were many faire sounds and good roads for shipping;" to that in which they anchored Davis gave the name of Gilbert's Sound.

A multitude of natives approached in their canoes, on which the musicians began to play and the sailors to dance and make token of friendship. The simple and harmless natives soon understood their meaning, and were so delighted with their treatment and the music, that they flocked round them in vast numbers, not less than thirty-seven of their boats being at one time along side the small barks. The sailors shook hands with them, and won so far on their good will, that they obtained from the "salvages"

whatever they wished—canoes, clothing, bows, spears, and many other articles. "They are very tractable people," says the narrator of the voyage, "void of craft or double-dealing, and casie to be brought to any civilitie or good order; but we judged them to be idolaters and to worship the sun."

Driftwood was found on these islands in great abundance. The cliffs are described as being made of the same ore as Frobisher brought home from Meta Incognita. On the rocks our adventurers found a red fruit growing; it was "sweet and full of red juice, and the ripe ones were like corinths."

Davis stood farther to the north-west, and on the 6th of August land was discovered in latitude $66^{\circ} 40'$, the sea there being quite free from ice. The barks cast anchor under the shelter of a mountain whose cliffs shone like gold; the voyagers christened it Mount Raleigh. They gave names to a few other features in the landscape and then went ashore. They were welcomed by "four white bears of a monstrous bigness," and one of these bears was killed.

On the 8th of August they sailed southward, and on the 11th came to the next southerly cape of the land they had coasted. They called it the Cape of God's Mercy, "as being the place of our first entrance for the discovery." Keeping this land to the northward, they sailed west and had a fine open passage from twenty to thirty leagues in width, entirely free from ice. The water was of the very colour of the ocean, and hopes rose high that they were on the eve of finding out the passage.

They sailed on for sixty leagues, and a cluster of islands was then observed right ahead of them. The weather now became thick and foggy, and the wind settled down to blow from the south-east. Day after day passed without a sign of amendment, and at the end of six days Davis determined on returning homewards. The homeward voyage commenced near the end of August, and the

ships arrived safely in Dartmouth on the 30th of September.

The important discovery of a free and open passage to the westward between Frobisher's Archipelago and the land now called Cumberland Island, and the great number of whales, seals, deer-skins, and other articles which had been freely offered by the natives to the crews of the ships, excited lively hopes at home for the extension both of traffic and discovery. The merchants of Exeter and other parts of the west of England contributed a large trading vessel of a hundred and twenty tons, called the *Mermaid*, to accompany Davis's little squadron on a second voyage. The fleet which Davis now had at command consisted of the *Sunshine*, the *Moonshine*, and a pinnace of ten tons named the *North Star*.

On the 7th of May, 1586, they left Dartmouth, and on the 15th of June made the land about Cape Farewell; coasted the west side of Greenland, and there had much intercourse with the natives.

The civility of the people induced the adventurers to examine the rivers and creeks which ran up into the main land. They found the surface much the same as that of the moor and waste grounds of England. The natives are described as "of good stature, and in body proportioned, with small slender hands and feet, with broad visages and small eyes, wide mouths, the most part unbearded, great lips, and close toothed." They are represented as being idolaters, having great store of images, which they wear about them and in their boats. They are said to be witches, and to practise many kinds of enchantment; they are strong and nimble, fond of leaping and wrestling, in which they beat the best of the crew, who were west-country wrestlers.

They discovered, however, in a little time that these Greenlanders were both very thievish and very mischievous, cutting their cables and stealing everything

they could lay their hands on. They are said to live mostly on fish, which they eat raw; to drink salt water, and to eat grass and ice as luxuries.

On the 17th of July our navigators were all alarmed at the appearance of "a most mighty and strange quantity of yce in one intire masse, so bigge as that we knew not the limits thereof." Its size and shape and height are stated by the writer of the voyage to be so "incredible to be reported in trueth," that he declines speaking more of it, lest he should not be believed. They coasted this ice till the 30th of July, which occasioned such extreme cold that all their shrouds, ropes, and sails were frozen, and the air was loaded with a thick fog. The men grew sick and wished to return, and advised their captain, "through his over boldness, not to leave their widows and fatherless children to give him bitter curses." He therefore thought of ordering the *Mermaid* to remain where she was, in readiness to return homewards, while with the *Moonshine* he should proceed round the ice.

He discovered land in latitude $66^{\circ} 33'$, longitude 70° from the meridian of London, "voyd of trouble, without snow or ice." This land turned out to be a group of islands. The weather was found to be very hot; and they were much troubled with a fly "which is called muskyto, for they did sting grievously."

After leaving the *Mermaid* they sailed west fifty leagues and discovered land in latitude $66^{\circ} 19'$. Turning to the south they fell in with land north-west from them; it was a promontory in latitude 65° , having no land on the south. "Here," says Davis, "we had great hope of a thorough passage." They continued to the southward, sailing among many islands, and afterwards along the coast from latitude 67° to 57° .

On the 28th of August they came to the entrance of a tempting harbour, which they explored for ten leagues; it had fine woods on either side. On the 4th of September,

being in latitude 54° , Davis says, "he had a perfect hope of the passage, finding a mighty great sea passing between two lands west." The savages on this part of the coast of Labrador were troublesome, and killed two of the men of the expedition.

But though so sanguine about the discovery of the North-west Passage, Davis had now to abandon his enterprise for that year. The weather became stormy and tempestuous. He gave orders therefore on the 11th of September to turn the ship's head homewards, and he and his crew arrived safely in England in the beginning of October.

It should be remarked that in all this voyage Davis was entirely alone in his little bark the *Moonshine*. On his arrival off Cape Farewell he had ordered the *Sunshine* and the *North Star* to look for a passage northward between Greenland and Iceland, as far as latitude 80° , if not interrupted by land. On the 12th of June these two vessels put into a harbour in Iceland, and there they remained for four days. Then steering north-west, they came on the 3rd of July between two firm islands of ice. This made them turn about.

They sailed along the coast of Greenland, and along a continued field of ice, and arrived on the 17th at the Land of Desolation. Gilbert Sound, at which they soon arrived, was the appointed *rendezvous*. They remained there till the 31st, but their consort failed to appear, so they departed for England. On the 3rd of September they encountered a great storm. The two vessels parted company, and on the 6th of October the *Sunshine* arrived safely at Radcliffe. As for the *North Star*, she was never heard of more.

Certainly there was not much of an encouraging nature about the second voyage of Davis. But the bold navigator had as much spirit as ever, and was quite ready to start on a third voyage in the following year.

"I have now," he said, "experience of much of the

north-west part of the world, and have brought the passage to that likelihood, as that I am assured it must be in one of four places, or else not at all." This time also he had the command of three vessels, the *Elizabeth*, the *Sunshine*, and the *Helena*. The start was made on the 19th of May, 1587, from Dartmouth. On the 14th of June they came in sight of mountains covered with snow.

On the 24th they had reached latitude $67^{\circ} 40'$, and saw great store of whales. On the 30th they had clear weather and found by observation that they were in $72^{\circ} 12'$, and that the variation of the compass was 28° W. The land along which they had been running, and which was the west coast of Greenland, they named the London Coast.

At this high latitude, finding the sea all open to the westward and to the northward, and the wind shifting to the northward, they left that part of the shore, which they called Hope Sanderson, and shaping their course west, ran forty leagues in that direction without meeting with any land. On the 2nd of July, however, they fell in with a "mightie bank of ice" to the westward, among which they were hampered for eleven or twelve days. They then determined to get near the shore and wait five or six days for the breaking-up of the ice; but they found the water too deep to come to an anchor, and either from "some fault in the barke or the set of some current," they were driven six points out of their course, and on the 19th were abreast of Mount Raleigh; from hence they stood sixty leagues up the strait discovered in the first voyage, now called Cumberland Strait, and anchored among the islands at the bottom of the gulf, to which they gave the name of the Earl of Cumberland's Isles.

They stood out from these islands to the south-east. Passing a headland, which they called Warwick's Foreland, and crossing a great gulf, they fell in on the 1st of August with the southernmost cape of the gulf, to which they gave the name of Cape Chidley, in $61^{\circ} 10'$ lat.

The strait therefore which bears the name of Hudson on all the charts was in fact discovered by Davis, but that in which he sailed to the highest point of northern latitude was very properly stamped with his name.

On Lord Darcie's Island they saw five deer, which took immediately to the sea on their landing; one of them is stated to have been "as bigge as a good prety cow, and one very fat, their feet as bigge as oxen feet." From hence they shaped their course for England, where they arrived on the 15th of September, 1587.

Davis, on his arrival at Dartmouth, wrote thus to a friend:—"I have bene in 73°, finding the see all open, and forty leagues betweene land and land. The passage is most probable, the execution easie, as at my coming you shall fully knowe."

In spite of his confidently expressed opinion, Davis could not prevail upon the merchant adventurers to continue their support. His zeal for northern discovery however continued unabated, and eight years after his return from his third voyage, we find him publishing a little treatise addressed to the "lords of her majesty's most honourable privy council," in which he gives a brief but comprehensive narrative of his own three expeditions. He adds many ingenious arguments for the existence of a North-west Passage, and shows the great advantages which England would derive from its discovery.

After his northern voyage, Davis sailed several times to the East Indies in the service of the Dutch. Some of these voyages have been published, and they prove him to have been a man of keen observation, great sagacity, and sound common sense. Of the date of his death nothing is known.



AN ARCTIC DESPATCH CASE.

CHAPTER X.

ENGLISH VOYAGES IN SEARCH OF A NORTH- WEST PASSAGE (*continued*).

A PIECE OF INFORMATION—GEORGE WEYMOUTH'S VOYAGE IN 1602—
A PLOT MISCARRIES—KNIGHT'S VOYAGE OF 1606—KNIGHT IS SLAIN
BY THE NATIVES—HENRY HUDSON'S LAST VOYAGE—MUTINY AT
SEA—THE LAST LOAF—ADrift IN A SMALL BOAT—QUARRELLING
AMONG THE MUTINEERS—FIGHTING WITH THE NATIVES—IN A
DOLEFUL PLIGHT—THE RETURN TO ENGLAND—SIR THOMAS
BUTTON'S EXPEDITION IN 1612—WINTERING IN NELSON'S RIVER—
JAMES HALL'S VOYAGE OF 1612—A NATIVE KILLS HALL—
CAPTAIN GIBBON'S EXPEDITION IN 1614—"GIBBONS HIS HOLE"
—BYLOT AND BAFFIN'S EXPEDITION OF 1615—BYLOT AND BAFFIN'S
SECOND EXPEDITION OF 1616—WOMEN'S ISLANDS—HOME AT LAST.

SEVERAL years now passed away without any new attempt being made to discover a nearer passage by the north to India and China. The English, however, could not see with indifference a lucrative commerce carried on with the eastern world by the Spaniards and Portuguese without endeavouring to enjoy a share of it. The several attempts to engage in that commerce by a shorter route than those of the Cape of Good Hope or Cape Horn having failed, the merchants of London determined to try their fortune by the former of these known passages. Their object, however, was not so much to open up a legitimate trade with the natives as to obtain wealth by the cheaper and more expeditious mode of plundering the Portuguese.

With this design three ships set sail in 1591 for the East Indies. The voyage proved most disastrous. One of the captains, however, whose vessel was lost on her return, sent home, or is supposed to have sent home, a piece of information which gave a new stimulus to another

discovery. In a postscript to one of his letters he says: "The passage to the Indies is in the north-west of America in $62^{\circ} 30'$ north." This postscript was at the time believed to be genuine, but it has since been supposed to be an interpolation.

It seemed, however, to revive the hopes of the mercantile part of the nation; and in 1602 the merchants of the Muscovy and Turkey Companies fitted out, at their joint expense, an expedition intended solely for the discovery of a North-west Passage to China. It consisted of two fly-boats, the one named the *Discovery*, the other called the *Godspeed*—the two carrying five-and-thirty men and boys, and victualled for eighteen months.

The command of the expedition was entrusted to Captain George Weymouth, who, for the better success of the voyage, as he tells us, was provided with "a great traveller and learned minister, one master John Cartwright."

They departed from Radcliffe on the 2nd of May, 1602. On the 18th of June they fell in with the first island of ice, stretching to the northward beyond the reach of sight; and on the same day saw the south part of Greenland. In standing to the westward the sea was perfectly smooth, but the water so black, "and as thicke as puddle," that they conceived it to be very shallow. On heaving the lead, however, "they could fetch no ground with one hundred and twenty fathoms."

On the 28th they saw land in latitude $62^{\circ} 30'$, which they thought to be the land of America, but it was only Warwick's Foreland on Resolution Island. In proceeding to the westward they passed several banks of ice, and again fell in with black water, occasioned probably by the soil which the icebergs frequently bring away in their disruption from the land. Again they supposed that they discovered America in latitude $63^{\circ} 33'$, but they could not approach it on account of the vast quantity of ice which

encircled the shore. Proceeding to the north-west they passed four islands of ice "of a huge bignesse." The fog then became so thick that they could not see two ships' lengths from them. It is represented to have frozen as fast as it fell, in the middle of July, and the stiffness of the ropes and sails made them useless.

On the 19th of this month the crews conspired together, while the captain was asleep, to bear up for England, and keep him confined to his cabin; but he discovered the plot in time to prevent it. He had the resolution to punish the ringleaders most severely, and only remitted a part of the punishment at the intercession of Master Cartwright the preacher and of the master.

Being near to an island of ice, the boats were sent to load some of it for fresh water, but as they were breaking some of it off, "the great island of ice gave a mighty crack two or three times, as though it had been a thunder clap; and presently the island began to overthrow, which was like to have sunk both our boats."

The whole account of Weymouth's proceedings is so confused that little can be drawn from it, except that he was among the islands to the northward of Hudson's Strait, and probably those of Cape Chidley.

On the 5th of August he arrived at Dartmouth. His voyage had been a complete failure. He had reached no higher than latitude $63^{\circ} 53'$: "He neither discovered," says Luke Fox, "nor named anything more than Davis, nor was he so far north; nor can I conceive he hath added any thing more to this design; yet these two, Davis and he, did, I conceive, light Hudson into his Straits."

In 1606, "the worshipful Companies of Muscovy and the East India Merchants" fitted out a small bark of forty tons for the discovery of the North-west Passage. It was called the *Hopewell*, and was placed under the command of John Knight, who had previously sailed in these high latitudes.

Knight left Gravesend on the 18th of April, 1606, and after a long and tedious passage, on the 18th of June descried the coast of Labrador. Here a northerly gale came on, which brought down such vast quantities of ice, that the little bark, being surrounded with it, lost her rudder, and Knight found it expedient to haul her close into the bottom of a cove, in order to save the clothes and other articles belonging to the crew, the ship's stores and the provisions.

Knight then, with the mate and four others, went on shore well armed, to endeavour to find out some more convenient place for repairing the damage which their ship had sustained. On landing, Knight, the mate, and his brother, with one of the crew, went up towards the highest part of the island, leaving two of the people to take care of the boat. These men waited in vain for their return from ten in the morning till eleven at night.

The next day a party well armed went in search of their unfortunate captain and his companions, but they were unable to reach the island on account of the ice. No tidings were heard of the little party, and it was then concluded that they had been intercepted and slain by the savage natives, as these people came down afterwards and attacked the remainder of the crew with great ferocity, shooting their arrows and pursuing them in all directions. They had very large boats, full of men, and the narrator thus describes their appearance: "As far as we could judge, they be very little people, tawny coloured, thin, and no beards, and flat noses, and man-eaters."

The adventurers now set about repairing their vessel. The damage, however, was almost past repair; on getting to sea, out of the ice, they had to keep the pumps constantly going. They steered with a rapid current in their favour for Newfoundland, and after much suffering and fatigue arrived at home, casting anchor in Dartmouth harbour.

Once more the attention of the English was turned to the north-west. Some patriotic people, thoroughly persuaded of the existence of a passage, fitted out a vessel at their own expense, and gave the command of her to Henry Hudson.

Of this voyage, which terminated so fatally to the brave commander, we have only a meagre account, at least of that part of it which is directly connected with the doings of Hudson himself. There is enough of it, however, to show that he passed through the strait which bears his name into an inland sea, improperly called a bay, which is also called after him. The ship appropriated for the service was the *Discovery*, of 55 tons, victualled, as it would appear, for six months.

She left England on the 17th of April, 1610, and on the 9th of June arrived off the entrance to Frobisher's Straits; but, on account of the ice and contrary winds, was compelled to sail to the westward for nearly a month. On the 6th of July she reached some rocks and islands, which Hudson named the Isles of God's Mercies. He then saw more land in latitude $60^{\circ} 24'$, to which he gave the name of Hold with Hope.

On the 2nd August they had sight of a fair headland, to which was given the name of Salisbury's Foreland; and sailing from thence they at last found themselves at the mouth of a great strait. This strait is formed by the north-west point of Labrador, which was named by Hudson Cape Wolstenholm, and a cluster of islands to the north-westward of it, the nearest headland of which he named Cape Digges. From hence the land was found to tend to the southward, and a large sea opened out:—here Hudson's brief remarks end, and the account of the remaining part of this unfortunate voyage is given by one Abacuk Pricket, on whose narrative very little dependence ought, perhaps, to be placed.

Such as it is, however, it furnishes an awful example of

the wretched condition to which mutiny and disobedience to lawful command on board ship at sea never fail to bring the unhappy men who are guilty of these crimes.

Pricket says that Hudson, being beset with ice, and almost despairing whether he should ever get free from it, brought out his card, and showed the ship's company that he had entered the strait a hundred leagues farther than any Englishman had been before, and therefore left it to their choice whether they were to proceed. On this some were of one mind and some of another, some wishing themselves at home, and some not caring where they were if once out of the ice; but, he adds, "there were some who then spake words which were remembered a great while after."

The first appearance of the mutiny is stated to have been produced by Hudson displacing the mate and boatswain, "for words spoken when in the ice," and appointing others. Proceeding to the south they entered a bay on Michaelmas Day, and gave it that name, and here it would seem the discontent was increased by the master insisting on weighing anchor while the rest were desirous of remaining there.

Having spent three months "in a labyrinth without end," they at length found a place on the 1st of November, where they hauled the ship aground, and on the 10th were frozen in. About the middle of the month John Williams, the gunner, died; on which occasion Pricket ejaculates, "God pardon the master's uncharitable dealing with this man!" And now we are let into Abacuk's story of the conspiracy.

Henry Hudson had taken into his house in London a young man called Greene, well connected but an abandoned profligate. Hudson carried him to sea "because he could write well," and likely enough, also from the humane motive of saving him from ruin. Greene was not long on board when he quarrelled with the surgeon and others of the crew. Pricket speaks favourably of his manhood, "but for religion he would say he was clean paper,

whereon he might write what he would." Having thus got rid of every religious feeling, it followed of course that no moral tie could bind him, and he soon began to conspire against his benefactor.

The provisions growing short increased the discontent of the crew. They caught what birds they could, and when the birds failed them had to be content with moss and frogs. When the ice broke up they caught fish, but the supply did not last long.

Hudson now made preparations for leaving the bay in which they had passed the winter. Before his departure he served out all the bread remaining, being a pound to each man for about a fortnight, "and he wept when he gave it unto them." There were five cheeses on board, which were also divided, and which afforded three pounds and a half for seven days.

After this scanty allotment of provisions, they stood to the northward, and on the 18th of June fell in with ice, and on the 21st, being still in ice, Wilson the boatswain and Greene came to Pricket, who was lying lame in his cabin, and told him that they and their mates meant to turn the master and all the sick into the boat, and leave them to shift for themselves. They added that they had not eaten anything for three days, and were therefore resolved "either to mend or end, and what they had begun they would go through with or die."

Pricket says, of course, that he tried to dissuade them from this horrid design, but that Greene bade him hold his tongue, for he knew the worst, and would rather be hanged at home than starved abroad.

Presently five or six others came to Pricket's cabin, and the following oath was administered to each of the conspirators: "You shall swear truth to God, your prince, and country; you shall do nothing but to the glory of God and the good of the action in hand, and harm to no man;" and so it very soon appeared, for on Hudson's coming out of

his cabin, they seized and bound his arms behind him; and on his asking them what they meant, they told him he should know when he was in the boat.

The boat was accordingly hauled alongside, "and the poor sick and lame men were called upon to get them out of their cabins into the shallop." Immediately the captain, his son, and seven others were driven into the boat; and a fowling piece, some powder and shot, a few pikes, an iron pot, a little meal, and some other articles, were thrown in at the same time.

The mutineers then cut the tow-rope and let her go adrift among the ice, where she was left with these unfortunate men in a situation which cannot be contemplated without horror and a feeling of deep indignation at the brutal perpetrators of this most atrocious act; and most of all, at the base ingratitude of the wretch who had been fed, clothed, and rescued from ruin by Hudson.

As soon as the boat was out of sight, Pricket says Greene came to him and told him that it was the will of the ship's company that he (Pricket) should go up into the master's cabin, and take charge of it, which, after some reluctance, he tells us he did.

The first dispute among the people was, which way they they should steer, one being for standing to the north-west, and another to the north-east; however they were soon beset in the ice, where they remained shut up for fourteen days; and when at length they escaped, their provisions were all gone, but they reached some islands, on which they gathered cockle-grass to eat.

It now occurred to them that any English port would be no safe place to anchor in, "and Henry Greene swore that the ship should not come into any place, but keep the sea still, till he had the king's majesty's hand and seal to show for his safety; and thus Greene at length became their captain."

On the 27th of July they reached an island near Cape

Digges, at the western extremity of Hudson's Strait. Here they caught gulls and got some cockle-grass. They met here a great number of savages, with whom at first they were on friendly terms, but they came at last to blows, and Greene was killed and three others were mortally wounded. "And thus," says Pricket, "you have heard the tragical end of Henry Greene and his mates, whom they called Captain; these four being the only lustie men in all the ship." Pricket himself, after fighting manfully, according to his own account, was severely wounded.

The survivors were in a dreadful plight. They managed, however, to catch about three hundred sea-fowl, and then stood to the westward, endeavouring to shape their course for Ireland. They had a little meal left, and with this and half a sea-fowl a day to each man, they made a kind of pottage. "We had flayed our fowle, for they will not pull; and Robert Ivet was the first to make use of the skins by burning off the feathers; so they became a great dish of meate, and as for the garbage, it was not throwne away. . . . At length was all our meate spent, and our fowle restie and dry; but being no remedy, we were content with the salt broth for dinner, and the halfe fowle for supper." Nor was this the worst; they were compelled at last to eat their candles, and to fry the skins and crushed bones of the fowl in candle-grease, which, with a little vinegar, is stated to have made "a good dish of meate."

Just before they reached land, and the last of their fowls was in the steep-tub, Robert Ivet, whom Hudson is said to have displaced as mate, and next to Greene the chief mutineer, died from sheer want. They were now in the Bay of Galloway, where they met with a Fowey fishing-smack, the people of which agreed, for a certain sum, to carry them into Plymouth.

Such is the substance of Abacuk Pricket's narrative; and meagre and suspicious as it is, the most remarkable circumstance is that it appeared satisfactory in England;

at least no further inquiry seems to have been made into the most inhuman and atrocious act that had been committed. Pricket, it is true, had disposed of the principal mutineers, and no doubt himself and those few who returned home made it out that they were compelled to enter into the conspiracy or at least to remain neutral.

The moral character of Abacuk Pricket and of Robert Bylot apparently did not suffer much in the eyes of the merchant-adventurers. We find, at least, that both were engaged to proceed on the same voyage the following year, under the command of Captain (afterwards Sir Thomas) Button, a man of very considerable talent. The two ships fitted out for this new voyage were the *Resolution* and the *Discovery*; the former of which was commanded by Sir Thomas, the latter by Captain Ingram. Sir Thomas Button had with him besides, on this voyage of discovery, a relation of the name of Gibbons, and one Captain Hawkridge, both volunteers and men of reputed skill and experience. The two ships, being in all respects ready for sea, and victualled for eighteen months, took their departure early in May, 1612.

The reasons assigned for this voyage were the opening of Hudson's Strait into a great western sea, and the report in Pricket's journal of Hudson's ship having been floated off a rock near Cape Digges by a *high tide* flowing from the *westward*. On arriving off the strait, Button stood directly to the westward for Digges' Island, where he remained a week, engaged in fitting up a pinnace which had been brought out in pieces from England.

He then proceeded westward, passing a large island which in some charts is called Southampton Island, and to which he gave the name of Carey's Swan's Nest. Then he fell in with more land, this time on the main coast of America, in latitude $60^{\circ} 40'$: he called it by the appropriate name of Hopes C^{reek}.

A storm came on, and the two ships stood to the south-

ward down Hudson's Bay, and on the 15th of August entered the mouth of a river in latitude $57^{\circ} 10'$ which was named by Button Nelson's River, so called from the master of his ship, whom he had the misfortune to lose, and who was interred at this place.

The season being far advanced, and Button seeing it would be expedient to winter here rather than in a more northerly latitude, his first care was to secure the two ships against the wind and tides and the floating ice. Many of the people died from the severe cold, though the river was not frozen over till the 16th of February. The weather however was frequently mild, and Button took advantage of it by employing his people on shore in killing game. The quantity of partridges was so abundant and so easily procured, that they are said to have taken and consumed no less than eighteen hundred dozen. He also contrived, like a wise commander, to keep the crew employed during their confinement to the ship, well knowing that the best way of preventing men from murmuring discontent, and secret conspiracies, was to divert their minds from dwelling on their own unpleasant situation. To the inferior officers he put questions concerning the route of their late navigation, and engaged them in comparing each other's observations as to the courses they had run, the set of the tides, the latitudes of the places they had touched at; and apparently consulting them what they should do, and what course they should take, on the approach of spring. Every man in the ship by these means felt himself of some importance, and took an interest in the further prosecution of the voyage.

The ice broke up from Nelson's River on the 21st of April, but they did not quit their winter anchorage till two months afterwards, when they stood to the northward exploring the eastern coast of America, comfortably with Hubert's idea, as high along the land of Southampton Island as 65° . Proceeding again to the southward Button

fell in with some islands and headlands to which he gave names. Then he passed Cape Chidley, and in sixteen days reached England in the autumn of 1613.

Sir Thomas Button was thus, we have seen, the first who reached the eastern coast of America on the western side of Hudson's Bay and discovered Nelson's River, so long the scene of the principal settlement of the Hudson's Bay Company.

In the same year that Sir Thomas Button sailed from England James Hall also made a voyage, with two small vessels called the *Patience* and *Heart's Ease*, fitted out by a new set of merchant-adventurers of London. It proved fatal to the persevering commander of this expedition, who was mortally wounded by the dart of an Esquimaux on the coast of Greenland. The little that is known of this voyage appears to have been written by William Baffin.

The first harbour in which Hall appears to have lain was Cockin's Sound, in Greenland, and on an island there he made his observations.

From Cockin's Sound they proceeded towards the river, "where the supposed myne should be"—from which expression it may be conjectured that the object of the present voyage was as much the discovery of gold as of the North-west Passage. The weather being stormy, they put into Ramelsford on the 21st of July; and here about forty of the savages came down to barter with them. "At which time our master, James Hall, being in the boate, a savage, with his dart, strooke him a deadly wound upon the right side, which our surgeon did thinke did peece his liver. We all mused that he should strike him, and offer no harme to any of the rest. . . . All that day he lay very sore pained, looking for death every houre; and on Thursday the three and twentieth, about eight of the clocke in the morning, he dyed, being very penitent for all his former offences."

Having buried the master, they proceeded to the northward and entered Cunningham's river, where they "found divers places where the Danes had digged." They got there a kind of shining stone, which, when their goldsmith, James Carliles, had tried, it was found of no value, having no metal at all in it.

After the murder of Hall none of the natives would come to trade with them, so they made up their minds to return home. On the 10th of August they set sail, and on the 17th of September arrived at Hull.

The reason assigned for Sir Thomas Button not following up the attempt to discover the Passage, of the existence of which he was so sanguine, is the death of his patron Prince Henry, during his absence on the first voyage. The *Discovery*, however, which had accompanied the *Resolution*, was again fitted out and victualled for twelve months, and the command of her was given in 1614 to Captain Gibbons, the relation and friend of Sir Thomas Button. The high character given by Sir Thomas to this officer as a seaman had raised great expectations from this voyage. But they were woefully disappointed.

Captain Gibbons ventured into Hudson's Strait, but before going far fell in with the ice. The weather also was boisterous, cold, and foggy. He turned back.

Some are of opinion that he never reached the strait at all, but was driven by the southern current and the floating ice down the coast of Labrador. Be that as it may, he took refuge in a bay in which he remained five months, completely blocked up by the ice. To this haven his ship's company are said to have given in derision the name of "*Gibbons his Hole*." Escaping at length, with some considerable damage to the ship, poor Gibbons made the best of his way home.

This utter failure did not discourage the adventurous merchants from following up the prosecution of discoveries in the north-west. They again fitted out the *Discovery* for

a fourth voyage towards this quarter. Robert Byleth or Bylot, who had been employed under Hudson, Button, and Gibbons, was now appointed master; and William Baffin, by whom the account of the voyage is written, was his mate and associate. The crew consisted of fourteen men and two boys.

With these slender means they left the Thames on the 16th of April, 1615, and saw Greenland on the east side of Cape Farewell on the 6th of May, from which time to the 17th, in proceeding westerly, they were much hampered with ice, and, on that day in particular, passed many great islands of ice, some of which are stated to have been more than two hundred feet high above the water. On the 27th they saw Resolution Island. On the 31st they came in sight of Button's Isles, and the next day stood across and got into a good harbour on the north-west side of Resolution Island.

Standing to the northward they came to a cluster of islands in Lumley's Inlet, to which they gave the name of *Savage Islands*; why, is not very clear, because though they observed on some of them many tents and canoes and dogs, they saw no people. On ascending a hill, however, they discovered a large boat on the water with fourteen people in it.

"Among the tents I found," says Baffin, "a little bagge in which was a company of little images of men; one the image of a woman with a child at her backe, all the which I brought away." The dogs, to the amount of thirty-five or forty, were most of them muzzled, and are described as a sort of "mungrele mastiffes, being of a brinded blacke colour, looking almost like wolves." These dogs draw their sleds over the ice.

In the narrow passages between these islands the ship was frequently stuck fast in the ice, which sometimes entirely choked up the straits.

The ice at length opened, and the ship made its escape.

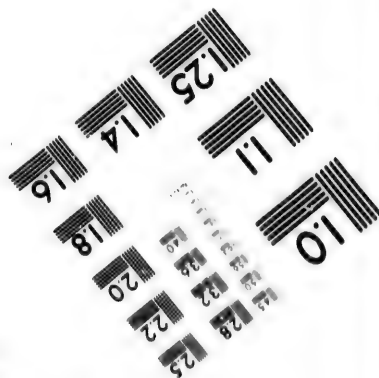
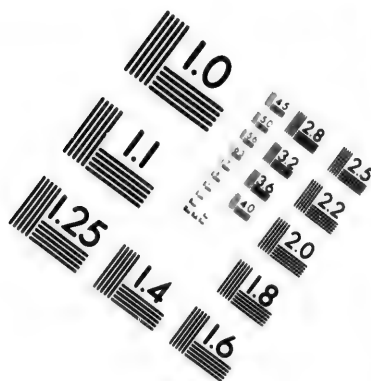
They next approached Salisbury Island, a little to the northward of which was a group, to which they gave the name of Mill Islands, from the grinding of one mass of ice against the other. In the narrow sounds made by these islands the ship was often in the utmost danger; "but God," says Baffin, "who is stronger than either ice or stream, preserved us and our ship from harm."

They continued slowly advancing to the north-west, and finding the flood coming down from the northward, they were "put in great comfort and hope of a passage in this place." They called a neighbouring headland Cape Comfort.

"But this our sudden comfort," says Baffin, "was as soon quelled;" for having passed the cape the land was observed to stretch away to the north-eastward, and the farther they proceeded north the shoaler was the water, and the more the sea was pestered with ice. Having, therefore, reached latitude $65^{\circ} 26'$ and longitude $86^{\circ} 10' W.$, the master concluded they were in a great bay, "and so tacked and turned the shippes head homewards, without any farther search."

Coasting the land to the southward, they fell in with a number of morses, and called the point opposite Sea-horse Point; and passed Nottingham Isle, near which they remained till the 27th of July, observing the set of the tide, the time of highwater, etc., and taking in ballast. From thence they proceeded between Salisbury and Nottingham Islands.

The master, however, was not quite satisfied in giving up the point so soon, and stood back again to Sea-horse Point; but the trending of the land gave no hopes of a passage that way, and they again stood to the south-eastward to Digges' Islands, where they killed about seventy fowls, which are called willocks; and it is observed they might have killed many thousands, these birds frequenting those islands in incredible multitudes. On the 5th of



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August they passed Resolution Island, and on the 7th of September came to anchor in Plymouth Sound; all the crew living, having only three or four sick, all of whom speedily recovered.

The little bark the *Discovery* was now to make a fifth voyage in search of the North-west Passage. It was fitted out by the same adventurers as before, and Robert Bylot was again appointed master, and William Baffin pilot. Both master and pilot got clear, distinct, and brief instructions:—

“For your course you must make all possible haste to the Cape Desolation; and from thence you, William Baffin, as pilot, keep along the coast of Greenland, and up Fretum Davis, until you come toward the height of eighty degrees, if the land will give you leave. Then, for fear of inbaying, by keeping too northerly a course, shape your course west and southerly, so far as you shall think it convenient, till you come to the latitude of sixty degrees; then direct your course to fall with the land of Yedzo, about that height, leaving your farther sailing southward to your own discretion, according as the time of the year and winds will give you leave, although our desires be, if your voyage prove so prosperous that you may have the year before you, that you go so far southerly as that you may touch the north part of Japan, from whence, or from Yedzo, if you can so compass it without danger, we would have you to bring home one of the men of the country; and so God blessing you with all expedition to make your return home again.”

On the 26th of March, 1616, the *Discovery*, with seventeen persons on board, set sail from Gravesend. When they reached Greenland they proceeded north, without obstruction, and anchored in a fair sound near the London Coast of Davis. The natives all ran away, leaving their dogs behind them.

They reached Hope Sanderson the extreme point of Davis's progress, on the 30th of May, and fell in with much

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SEALS SLAIN BY THE ESQUIMAUX.

Ice-World Adventure.

ice. On the 1st of June clear water was entered, but the wind being contrary they put in among a cluster of islands. On seeing the ship the natives fled. Some women, however, both old and young, hid behind the rocks, and were discovered by our voyagers. One of the old women was guessed to be little less than fourscore.

To this group they gave the name of Women's Islands. The inhabitants are described as very poor, living on seal's flesh, which they eat raw, and clothing themselves with skins. The faces of the women were marked with black streaks. They seemed to worship the sun, pointing constantly to it and stroking their breasts, and calling out at the same time *Ilyout!* The men and dogs are buried in the same manner, each having a heap of stones piled over them.

Departing from hence they stood away to the northward, between the ice and the land, till they came to the latitude of $74^{\circ} 4'$, when they found themselves much pestered with the ice; and here they dropped anchor. They then tried to make their way to the westward, but the ice was too firm to let them pass; and therefore they returned to some islands in latitude $73^{\circ} 45'$ to wait till the ice (which they observed to melt very fast) should disappear. During their stay at this place some forty of the natives came in their boats and exchanged seal's skins, sea-morse teeth, and unicorn's horns, for small pieces of iron, glass beads, and suchlike. To this place they gave the name of Horn Sound.

On the 18th, on perceiving that much of the ice had already wasted, they proceeded northerly; but the weather was extremely cold with much snow, and Baffin says, it froze so hard, "that on midsummer day our shrowds, roapes, and sailes were so frozen that we could scarce handle them." By the 1st of July, being then in latitude $75^{\circ} 46'$, they had got into an open sea, "which," said Baffin, "anew revived the hope of a passage."

On the 4th, the weather being stormy, they found themselves embayed in a large sound, in which they saw so many whales that they named it Whale Sound. Between two great sounds was an island, which they called Hakluyt's Island, and the latter sound Sir Thomas Smith's Sound, which runneth to the north of 78° , "and is admirable in one respect, because in it is the greatest variation in the compasse of any part of the world known; for, by divers good observations, I found it to be above five points or fifty-six degrees varied to the westward."

The wind being favourable, they stood to the south-westward, in an open sea, and with a stiff gale of wind, till the 10th, when it became calm and foggy. The boat was sent on shore, but it soon returned on account of the bad weather; no people were to be seen, but there were numbers of sea-morses among the ice.

Standing on to the westward they entered another great sound, which they called Sir James Lancaster's Sound. Here their hope of passage "began to be less every day." At last, says Baffin, "seeing that wee had made an end of our discovery, and the year being too farre spent to goe for the bottome of the bay to search for drest finnes,* therefore wee determined to goe for the coast of Groneland to see if we could get some refreshing for our men." Their crew, it seems, were very sickly; one had died, and three were laid up in their hammocks. They therefore stood for the shore, and anchored in a place called Cockin Sound in latitude $65^{\circ} 45'$.

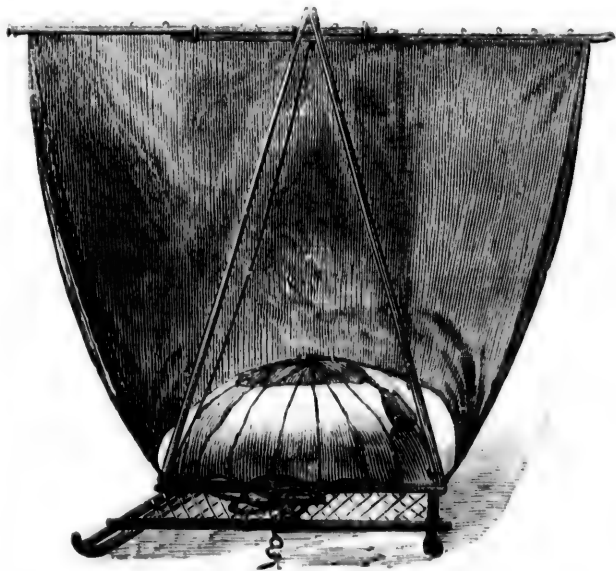
Here on a little island they found abundance of scurvy grass, which they boiled in beer, and mixing it with sorrel and orpen, both very plentiful, made good salads. The men in the course of eight or nine days were perfectly recovered. They also received, after continuing a few days, "salmon peale" from the natives. It is also stated, that in this sound

* Whalebone.

"were such great scales of salmon swimming to and fro, that it is much to be admired."

They left this bay on the 6th of August, and on the 25th of the same month came in sight of the coast of Ireland, and on the 30th anchored safely in Dover Road, "for the which," says Baffin, "and all other His blessings, the Lord make us thankful."

This voyage, which ought to have been, and indeed may still be, considered as one of the most interesting and important, either before or since, is the most vague and unsatisfactory of all.



A SLEDGE WITH SAIL UNFURLED.

CHAPTER XI.

ENGLISH VOYAGES IN SEARCH OF A NORTH- WEST PASSAGE (*continued*).

LUKE FOX'S EXPEDITION OF 1631—"NORTH-WEST FOX"—A GOOD STORE OF PROVISIONS—A BRISTOL EXPEDITION—POETICAL REFLECTIONS—FOX ENCOUNTERS ICE—A NATIVE BURYING-PLACE—ENTERTAINED BY CAPTAIN JAMES—A FRIENDLY CRITICISM—BEARING UP FOR HOME—CAPTAIN JAMES' VOYAGE OF 1631—PROFOUND IGNORANCE—A MIRACULOUS DELIVERANCE—IN MANY PERILS—WINTER QUARTERS—COLD AND DISEASE—MAKING FOR ENGLAND—"LAMENTATION, WEEPING, AND GREAT MOURNING."

AFTER the voyage of Baffin and Bylot in 1616, spoken of in the end of the previous chapter, the spirit of English adventure languished, so far as the North-west Passage was concerned, for several years. The revival of an attempt to discover it is due to Captain Luke Fox, who, by his own account, had continued with unabated zeal to urge a new expedition for exploring the arctic seas; which, he says, "he had been itching after ever since 1606, when he wished to have gone as mate to John Knight." He succeeded at length, in 1631, in persuading Mr. Henry Briggs and Sir John Brooke to petition Charles I., for the loan of one of his ships, and for his countenance of the voyage, who, we are told, "graciously accepted and granted both."

Fox says he was allowed to choose his own ship, and that he pitched on a pinnace of the burden of 80 tons, which was named the *Charles*, manned with twenty men and two boys, victualled for eighteen months, and well fitted in every respect.

The narrative of the voyage is written by Fox himself, who affectedly assumes the name of the *North-west Fox*. He was a keen, shrewd Yorkshireman, and evidently a man

of considerable talent, but conceited beyond measure; and the style of his journal is so uncouth, and the jargon so obscure and comical, as in many places to be scarcely intelligible. "Gentle reader," he thus begins, "expect not heere any flourishing phrases or eloquent tearmes; for this child of mine, begot in the north-west cold clime (where they breed no schollers), is not able to digest the sweet milkie of Rethorick," &c.

He leaves England, however, highly satisfied both with himself and with his equipment. "I was victualled," says he, "compleatly for eighteen moneths; but whether the baker, brewer, butcher, and others were masters of their arts or professions or no, I know not; but this I am sure of, I had excellent fat beefe, strong beere, good wheaten bread, good Iseland ling, butter and cheese of the best, admirable sacke and aqua-vitæ, pease, oatmeale, wheatmeale, oyle, spice, sugar, fruit, and rice; with chyrurgerie, as sirrups, juleps, condits, trechissis, antidotes, balsoms, gummes, unguents, implaisters, oyles, potions, suppositors, and purging pills," &c. And on taking leave he received, he says, from the king "a mappe of all my predecessors discoveries, and his Majesty's instructions, with a letter to the emperor of Japan."

The merchants of Bristol, determined not to be outdone by those of London in manifesting a spirit of enterprise, fitted out the same year, and for the same object, a ship called the *Maria*, the command of which was given to Captain Thomas James.

Fox left Deptford on the 5th of May, 1631, passed Cape Farewell in a fog and drizzling mists on the 13th of June, and on the weather clearing, observed a shoal of grampuses following their leader, which, he tells us, brought to his recollection "Mr. William Browne in his *Britaines Pastorals*, where he writes 'the Tritons wafted Thetis along the British shores.'" On the 20th he got sight of the land to the northward of Lumley's Inlet.

On the 20th he arrived off Cape Chidley. Next he made haste to pass through Hudson's Strait to the westward. Towards the farther extremity of the strait he was much hampered with ice, which he observed to be of two kinds: first, mountainous ice, floating about in large masses, "seldom bigger than a great church;" and the second kind is called "masht, or fleackt ice, in pieces from a foot or two to two acres, and one or two feet high above the surface." One of the mountainous pieces, larger than the rest, had a rock upon it of five or six tons weight, with several other smaller stones and mud.

On the 10th of July he had only reached Salisbury Island. Shortly afterwards a sea unicorn was seen; but Mr. Fox, in his gossiping journal, is not very happy in his description of it.

The 20th of July, near Carey's Swan's Nest, "was a hot day as any in England, the Henban flashing all night," and at midnight "there was in the air many *petit dancers*" (so he calls the aurora borealis).

In coasting along the eastern shore of America he fell in with an island, in which were numerous burying-places of the natives. He named it Sir Thomas Rowe's Welcome. In the burying grounds they found many corpses, wrapped in deer-skins, and laid under stones with their heads to the west, the longest of which, Fox says, was not above four feet long. The bodies were enclosed with planks nine or ten feet long, and four inches thick, a whole boatload of which they carried off for firewood. With the bodies were deposited bows, arrows, lances, darts, and other implements carved in bone. Many of the darts were headed with iron, but one had a head of copper, which makes him conclude that some Christians might have been there before him.

From the Welcome Fox stood again to the southward, looking into Hubert's Hope. Here they found a cross which had been erected by Sir Thomas Button, still bearing

his name. From Nelson's River Fox stood across the bay to the south-eastward, and on the 29th of August fell in with Captain James, on board whose ship he went and "was well entertained and feasted."

For this, however, he makes but a scurvy kind of return, speaking thus slightly of his brother navigator: "The gentleman (meaning James) could discourse of art, of observations, calculations, and the like, and showed me many instruments, so that I did perceive him to be a practitioner in the mathematics; but when I found that he was no seaman, I did blame those very much who had counselled him to make choice of that ship for a voyage of such importance, for to endure two winters in, as he must have done if he had any such intent, before he could come about *Bona Speranza* home. Our discourse had been to small purpose if we had not pryed into the errors of our predecessors, (and being demanded) I did not think much for his keeping out his flag; for my ambition was more etherial, and my thoughts not so ayerie, so to set my sight towards the sky, but when I either called to God or made celestial observation; to this was replied that he was going to the Emperor of Japan with letters from his majesty, and that if it were a ship of his majesty's, of 40 pieces ordnance, he could not strike his flag. Keep it up then, quoth I; but you are out of the great way to Japan, for this is not it;"—and a great deal more of such stuff.

Fox, having coasted a considerable time towards the bottom part of Hudson's Bay to no purpose, again directed his course to the northward on the 4th of September, naming the cape; he last parted from Wolstenholme's Ultimum Vale;" "for that I do believe Sir John Wolstenholme will not lay out any more monies in search of this bay." On the 8th he had advanced on the land on which is Carey's Swan's Nest, and observes that "every night here are pettit-dancers, and red fire flashes in the air most fearful to behold."

After some further exploration, on the 25th of September he began to think that they had made but a "scurvie voyage of it," and that the best they could do was to bear up homewards. Accordingly he made sail out of Hudson's Strait, and arrived in the Downs on the 31st of October, with all his men recovered and sound, "not having lost one man or boy, nor any manner of tackling, having been forth near six months: all glory be to God."

Fox complains that he got no reward for his trouble; in fact, the result of the voyage evidently disappointed those who had been instrumental in promoting it. He however stoutly maintained the probability of a North-west Passage.

Captain James was furnished with similar credentials from Charles I. to those which had been given to Fox. He left Bristol in the *Maria*, of seventy tons, on the 3rd of May, 1631, passed Cape Farewell on the 9th of June, and saw Resolution Island, not, however, before he had many fields and islands of mountainous ice to encounter, with a black looking sea, a continual mist or fog, which is described as "thick, heavy, and stinking;" and the air so piercing as to affect the compass and cause a sluggish and impeded motion in the magnetic needle. In endeavouring to push through Hudson's Strait, the ship was almost continually beset with ice, and sometimes driven about at the mercy of the tides and currents. To add to their distress in this situation, the sails were frozen stiff and the rigging hanging with ice.

If Fox was conceited in consequence of the knowledge he had acquired from studying the voyages of his predecessors, James seems to have been more culpably conceited in his total ignorance of all that had been done before him; he not only appears to have been wholly unacquainted with the narratives of preceding voyagers, but purposely, as he tells us, refused to take with him any person who had previously been employed in a voyage of northern discovery or on the Spitzbergen fishery. The

consequence of this was, that as soon as they found themselves surrounded with ice, they were wholly ignorant how to manage the ship, and their want of experience not only alarmed them, but had nearly proved fatal to the ship and all on board; for, in endeavouring to avoid the ice, the ship settled upon a sharp rock, and the tide, then ebbing, left her hanging by the middle, and she fell over to such a degree that they could not remain in her. "Having now done," says James, "to the best of our understandings, but to little purpose, we went all upon a piece of ice and fell to prayer, beseeching God to be merciful unto us." The flowing tide brought the ship upright and floated her off; "then was our sorrow turned to joy, and we all fell on our knees, praising God for His mercy in so miraculous a deliverance."

The ice, however, continued to increase to such an extent on all sides, that they were unable to see from the mast-head the space of an acre of open sea; but a change of wind dispersed it, and after many difficulties and dangers, and much wailing, they reached Salisbury Island on the 5th of July, and on the 15th, still much pestered with ice and imagining "a thousand times that the ship had been beaten to pieces," they got between Nottingham and Digges' Islands.

It would be tedious as well as useless to follow Captain James in his slow progress to the south-westward in Hudson's Bay. From his own utter ignorance, and that of all hands on board, of the manner of conducting a ship among ice, she was almost constantly beset, and frequently remained unmovable with all her sails spread. It was not to be wondered, therefore, that the people began to murmur and to fancy that they were likely to pass the winter in the midst of fields of ice and snow.

On the 29th they fell in with the *Charles*, under the command of Fox, as we have already told. Shortly after a tremendous gale of wind, accompanied with snow and

hail, put them in the utmost peril: the waves broke over the ship, and no one ever expected to set foot again on shore. On the 12th of September, however, they contrived to run the ship aground among the rocks on the coast of America, in about latitude $52\frac{1}{2}^{\circ}$, and thinking that she had now got her "death's wound," threw into the boat some carpenter's tools, a barrel of bread, a barrel of powder, some muskets, matches, fishing-hooks, and other materials, which they sent ashore, "to prolong a miserable life a few days." The vessel drove off the rocks to their astonishment, and was found not to be very much injured after all.

After countless perils, they came to an island on the 2nd of October, which was called by James the Earl of Danby's Island, but now is generally known as Charlton Island, lying in latitude about 52° .

Some time was spent in determining what to do, and in exploring the island. The sick men wished for a hovel on the shore, which was accordingly built and covered with a mainsail.

The island seemed at first only to produce a few deer, but on winter setting in many black foxes made their appearance. One day the gunner's-mate went out to look for the latter animals; in crossing a frozen pond the ice broke, and he was seen no more.

Before the end of November everything was covered with frost and snow, and the ship appeared to be one great mass of ice. On the 22nd the gunner died, "an honest and a stout-hearted man." His leg had been amputated, and notwithstanding the constant fire kept burning in his cabin, "his plasters would freeze at his wound and his bottle of sack at his head."

The constant danger to which the ship was exposed from various sources induced the crew to abandon her and remove all their provisions to the land. This was done on the 26th of November, and it is stated that when they joined their sick comrades on shore, "they could not

know us nor we them, by our habits and voices, so frozen we were—faces, hair, and apparel." A dismal account is given of their noses, cheeks, and fingers being frozen as white as paper, and of blisters being raised as large as walnuts.

The well which they had dug froze up, and melted snow-water was pronounced to be very unwholesome, either to drink or to dress victuals; "it made us so short-breath'd that we were scarce able to speak"—"all our sack, vinegar, oil, and everything else that was liquid, was now frozen as hard as a piece of wood, and we cut it with a hatchet; our house was all frozen in the inside, and it froze hard within a yard of the fireside"—and all this happened before the middle of December, and in a latitude not thirty miles to the northward of that of London.

In the month of January, James determined the latitude of his winter quarters to be $51^{\circ} 52'$, and ascribes the great difference between this and a former observation to the effects of refraction. As a proof of it, the disc of the sun, when near the horizon, appeared to be twice as long as it was broad; and by observations it was found that, owing to the refractive power of the atmosphere, the sun rose full twenty minutes before and set twenty minutes after the regular time. On two nights, in particular, he observed more stars in the firmament, by two-thirds, than he had ever seen before.

In February the scurvy began to make its appearance among the crew, exhibiting the usual symptoms of weakness, swelled legs, sore mouths, black, turgid gums, and teeth loose in the jaw. As the spring advanced the cold increased; and it is remarked that the people found it "more mortifying cold to wade through the water in the beginning of June, when the sea was full of ice, than in December, when it was encreasing." It does not seem to have occurred to Captain James that this feeling was not occasioned by a greater degree of absolute cold, but by

the greater difference between the temperature of the air and that of ice-water in June than in December.

Towards the middle of April they began to clear away the ice out of their ship, and to see what could be made of her. In the hold they found some beer and wine which had not been frozen, and which was a great comfort to the sick, whose condition is described as being most deplorable. The death of the carpenter was a great interruption to their proceedings, but they contrived to supply his place by one or two who could handle a tool. At length, on the 1st of July, all was ready for a start; the ship's colours were hoisted on the poop and in the maintop, and the following day they made sail; but such was the captain's predilection for the shore and shoal water, that even at this advanced season of the year, and in the low latitude of 52° , the ship "did so strike against the ice, that her fore part would crack again, and make our cook and others run up all amazed and think the ship had been beaten all to pieces."

Captain James, indeed, contrived, in the whole of his northern passage, to be hampered with ice daily and almost hourly. On the 24th of August he saw Nottingham Island, where the whole sea was covered with ice. Two days afterwards he asked his officers for their advice as to how he should proceed, and they gave in writing their unanimous opinion that he should return homewards. This opinion he adopted, and on the 23rd of October arrived in Bristol Roads.

Captain James's history of his voyage may be called a book of "lamentation, and weeping, and great mourning." With regard to discovery, he contributed nothing to what former navigators had effected; yet he boldly asserts the improbability of a North-west Passage, for reasons which he might just as well have assigned before his voyage, and so have spared himself and his people the sufferings they underwent at Charlton Island.

CHAPTER XII.

ENGLISH VOYAGES IN SEARCH OF A NORTH-WEST PASSAGE (*continued*).

EARLY CANADIAN HISTORY — A FRENCHMAN'S PROPOSALS — PRINCE RUPERT'S PATRONAGE—CAPTAIN GILLAM'S EXPEDITION IN 1668—THE HUDSON'S BAY COMPANY'S CHARTER—WITHOUT TASTE FOR DISCOVERY—JAMES KNIGHT'S SCHEMES—LOOKING FOR GOLD AND THE NORTH-WEST PASSAGE—NO NEWS OF KNIGHT—A SEARCH EXPEDITION—THE FATE OF KNIGHT AND HIS CREW—AN EXPLORING EXPEDITION OF 1737—CAPTAIN MIDDLETON'S EXPEDITION OF 1741—HERE AND THERE—THE FROZEN STRAIT—CHARGES AGAINST CAPTAIN MIDDLETON—A REWARD OFFERED FOR THE DISCOVERY OF THE PASSAGE—MOOR AND SMITH'S EXPEDITION IN 1746—IN WINTER QUARTERS—THE EFFECTS OF THE COLD—EXPLORATION IN SPRING—CAPTAIN COOK'S EXPEDITION IN 1776-79—CAPTAIN COOK'S EXPEDITION CONTINUED BY CAPTAIN CLARKE—LIEUTENANT PICKERS-GILL IN THE ARCTIC SEAS IN 1776—HUGGING THE SHORE—LIEUTENANT WALTER YOUNG'S EXPEDITION IN 1777.

NEARLY forty years elapsed after the voyage just described without any attempt being made for the discovery of a passage into the south seas, either by the north-east or the north-west. This is a strong proof of the light in which the voyages of Fox and James were considered. All further attempts were looked upon as hopeless. It would appear, however, that a voyage had been undertaken to Hudson's Bay in the intermediate time, from New England, either for the purpose of fishing or discovering. The French, after possessing themselves of Canada, crossed over the land to the shores of Hudson's Bay.

Among the first of these explorers was one M. de Gros-
seliez, a bold and enterprising man, who, seeing the advantage that might be derived to the French settlements in North America by possessing themselves of the ports and harbours of Hudson's Bay, prevailed on some of his

countrymen at Quebec to fit out a ship for the purpose of examining the coasts of that bay, in which he proceeded himself.

Having landed late in the season on the western side of the bay, near to Nelson River, some of his people returned with an account of their having discovered an English settlement; upon which he proposed to attack and, if possible, to take possession of it; but, on approaching the spot, a solitary hut only was discovered, in which were half a dozen miserable wretches on the point of perishing from disease and famine. These unhappy men told Grosseliez they were part of the crew of a ship from Boston, who had been sent on shore to look out for a proper place for the ship to which they belonged to lie in safety during the winter, and that while on this service the ship had been driven away with the ice, by a storm, from her anchorage, and had never returned.

Having explored the country bordering on Nelson River, Grosseliez departed for Canada, leaving his nephew Chouart with five men to winter there; but some disagreement arising between him and his employers, he sent over his brother-in-law to France, to lay before the government a representation of the advantages which might be derived from an establishment on the coast of Hudson's Bay. The project, however, was treated as visionary; but so strongly convinced was Grosseliez of its great utility, that he set out himself for Paris, where he met with no better success than his brother-in-law had done. The only reason assigned for this indifference of the French government to form any establishment on the shores of Hudson's Bay is the dismal account given of the climate in Captain James's narrative, which deterred them from entertaining such a project.

Mr. Montague was at this time the English minister at Paris. Hearing of the proposal of Grosseliez, and its rejection by the French government, he sent for him to explain his views; they appeared so satisfactory to him,

that he gave him a letter to Prince Rupert, with which he came over to England. Here he met with a different reception from that of his countrymen; he was immediately engaged to go out in one of his majesty's ships, which was taken up for the voyage, not merely to form a settlement, but also to prosecute the oft attempted passage to China by the north-west.

Captain Zacchariah Gillam was appointed to carry out the Frenchman to Hudson's Bay, and to make discoveries to the northward. He sailed in the summer of 1668, and is said to have proceeded as far north up Davis's Strait as 75°, but nothing appears on record to justify such an assertion.

On his return into Hudson's Bay, he entered Rupert's River on the 29th of September, and prepared to pass the winter there. The river was not frozen over before the 9th of December; and though considerably to the northward of Charlton Island, where James wintered, no complaint is made by Gillman of the severity or long continuance of the cold; which, on the contrary, is said to have ceased in the month of April. At this place Captain Gillam laid the foundation of the first British settlement by building a small stone fort, to which he gave the name of Fort Charles.

Prince Rupert had not contented himself with merely patronising the voyage of Gillman. He obtained a charter from King Charles in 1669, granted in favour of himself and several other adventurers, for having, at their own cost and charges, undertaken an expedition to Hudson's Bay. This document conferred on them, exclusively, all the lands and territories in Hudson's Bay, together with all the trade thereof. It was an extraordinary charter of sweeping privileges, and it formed the commencement of the celebrated Hudson's Bay Company.

The body of gentlemen and merchants thus incorporated soon proved to be a body without spirit, as far as discovery

went, though discovery was the chief plea on which the charter had been granted. Their whole attention was turned to the establishment of forts and factories, and to the extension of their trade with the Indians, from whom they procured their most valuable furs for articles of very trifling cost.

In this prosperous state of affairs the North-west Passage seems to have been entirely forgotten, not only by the adventurers who had obtained their exclusive charter under this pretext, but also by the nation at large; at least nothing more appears to have been heard on the subject for more than half a century.

In the beginning of the eighteenth century James Knight, governor of the Hudson's Bay factory on Nelson River, learned from the Indians that some distance to the northward, and on the banks of a navigable river or inlet, there was a rich mine of native copper. On the strength of this information he came over to England to solicit the Company to fit out two vessels, and send them, under his command, to discover this rich mine; but the company, for certain reasons which were construed unfavourably to the liberal views of the directors, refused to comply with the proposal of their governor.

Knight, however, did not give up his point. He plainly told them that they were obliged by their charter to make discoveries, as well as to extend their trade; that they were particularly required to search for a North-west Passage through the Straits of Anian to the south sea; and that if they still refused to send him on a voyage of discovery, he should lay his application before the ministers of the crown; and for this purpose he actually waited on one of the secretaries of state.

When the company perceived him thus resolutely bent on his project, and that his "troublesome zeal," as Robson calls it, "might actually bring on an enquiry into the legality of their charter," they thought it necessary to

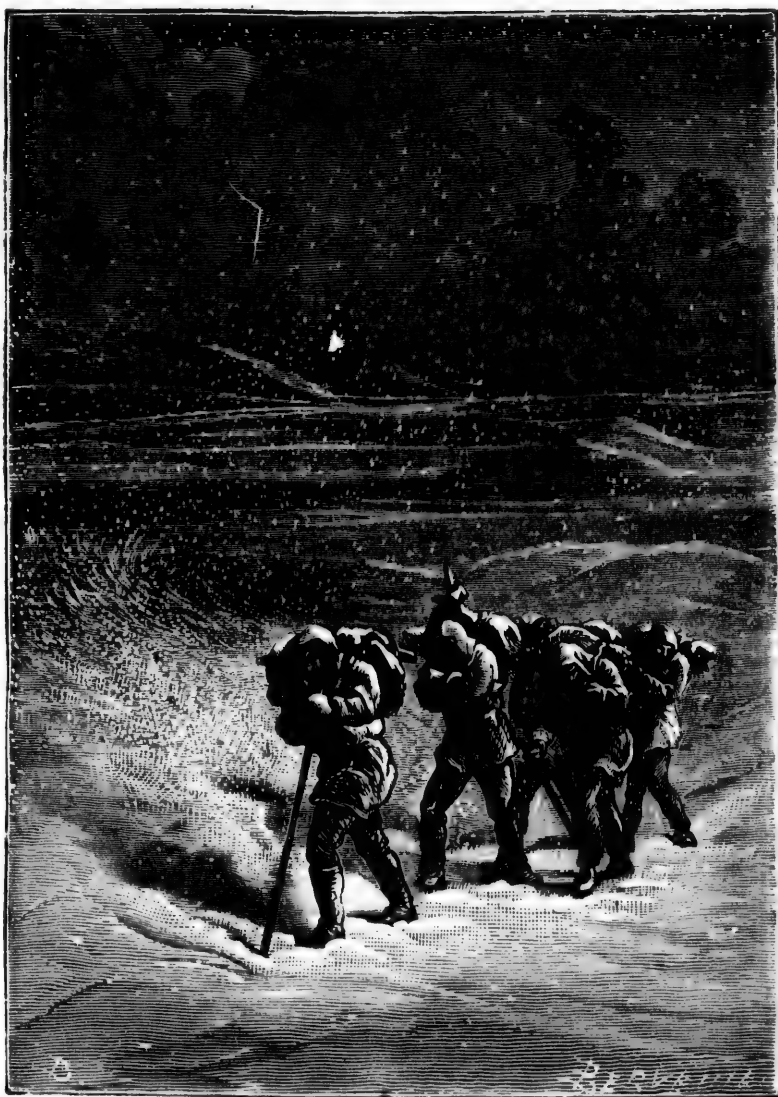
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TRAVELLING IN THE HUDSON'S BAY TERRITORY.

Ice-World Adventures.

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comply, and fitted out a ship and sloop called the *Albany* and *Discovery*, the former commanded by Captain George Barlow, and the latter by Captain David Vaughan; Mr. Knight being, however, entrusted with the sole direction of the expedition. Perhaps they had the less scruple in sending Knight as, by Robson's account, he must have been nearly eighty years of age when he undertook this voyage.

Of the success of the expedition Knight was so confident, that he had strong chests made, bound with iron, to hold the gold and copper which he expected to find. This was probably the single object that occupied his mind; the North-west Passage and the Straits of Anian were thrown out with no other view than to urge the company, and to point out to them the necessity of doing something which might wear the appearance, at least, of satisfying the conditions of their charter.

Knight was accordingly, by his instructions, directed "to depart from Gravesend on the intended voyage, by God's permission, to find out the straits of Anian, in order to discover gold and other valuable commodities to the northward."

Neither of his ships ever returned or were heard of, and it was concluded they had been lost among the ice, or shut up in some creek or strait from which they had no means of returning; and as the Hudson's Bay Company had sent out the two vessels, they could not do otherwise than despatch another to look for the unfortunate crews. The *Whalebone* was accordingly ordered to proceed on this service. The person appointed to command her was John Scroggs, of whose proceedings nothing was ever published, except a brief abstract.

This abstract informs us that Scroggs, in the course of the voyage, got news of a rich copper mine in an uncertain locality, and saw many whales; but it does not mention a syllable of any search being made for the unfortunate crews

of the two ships. To all appearance, they never troubled their heads about whether they were alive, or had been destroyed by the natives, or had perished from cold and hunger.

It was not till the year 1767 that the most unequivocal proofs were discovered of their melancholy fate. In that year, as some of the boats employed on the company's whale fishery, near Marble Island, stood in close to the shore, they discovered a new and commodious harbour near the east end of it, at the head of which were found guns, anchors, cables, bricks, a smith's anvil, and several other articles, which, from their weight or uselessness, had not been removed from their original place by the natives. The remains of a house, and the hulls or rather bottoms of the two ships were also discovered under water; and some of their guns and the figure-head of one of the ships were sent home to England. The following account, given by Hearne, points out the misery to which these poor people must have been reduced on this desolate island:—

“In the summer of 1769, while we were prosecuting the fishery, we saw several Esquimaux at this new harbour, and perceiving one or two of them greatly advanced in years, our curiosity was excited to ask them some questions concerning the above ship and sloop, which we were the better enabled to do by the assistance of an Esquimaux who was then in the company's service as a linguist and annually sailed in one of their vessels in that character. The account which we received from them was full, clear, and unreserved, and the sum of it was to the following purport.

“When the vessels arrived at this place (Marble Island), it was very late in the fall, and in getting them into the harbour the largest received much damage, but on being fairly in, the English began to build a house, their number at that time seeming to be about fifty. As soon as the ice permitted, in the following summer, 1720, the Esquimaux

paid them another visit, by which time the number of English was very greatly reduced, and those that were living seemed very unhealthy. According to the account given by the Esquimaux, they were then busily employed, but about what they could not easily describe—probably in lengthening the longboat; for at a little distance from the house there was now lying a great quantity of oak chips, which had been made most assuredly by carpenters.

"A sickness and famine occasioned such havoc amongst the English, that by the setting in of the second winter their number was reduced to twenty. That winter, 1720, some of the Esquimaux took up their abode on the opposite side of the harbour to that on which the English had built their houses, and frequently supplied them with such provisions as they had, which chiefly consisted of whale's blubber, and seal's flesh, and train oil. When the spring advanced, the Esquimaux went to the continent, and on their visiting Marble Island again, in the summer of 1721, they found only five of the English alive; and those were in such distress for provisions, that they eagerly eat the seal's flesh and whale's blubber quite raw as they purchased it from the natives. This disordered them so much that three of them died in a few days, and the other two, though very weak, made a shift to bury them.

"Those two survived many days after the rest, and frequently went to the top of an adjacent rock and earnestly looked to the south and east, as if in expectation of some vessels coming to their relief. After continuing there a considerable time together, and nothing appearing in sight, they sat down close together and wept bitterly.

"At length one of the two died, and the other's strength was so far exhausted that he fell down and died also in attempting to dig a grave for his companion. The skulls and other large bones of those two men are now lying above ground close to the house. The longest liver was, according to the Esquimaux account, always employed

in working iron into implements for them; probably he was the armourer or smith."

Some time after Knight's unfortunate expedition, a gentleman of the name of Dobbs having listened to the reports of different discoverers became persuaded that decisive proof was in existence of a passage into the great western ocean. By dint of persuasion and importunity he prevailed on the Hudson's Bay Company to send out two small vessels for the purpose of examining the eastern coast of the Welcome to the northward of their settlements. These ships set sail in 1737. No account of their proceedings appears ever to have been published. They are supposed to have reached only to about $62\frac{1}{2}^{\circ}$ of northern latitude, confirming, however, the reports made by former expeditions as to the set of the tides from the northward, which had raised hopes of a passage.

Mr. Dobbs was far from satisfied with what they did, and wrote very indignantly of the Hudson's Bay Company doing their best to prevent rather than encourage discovery.

It was rather singular that, after expressing so strong an opinion against the company, he should have entered into a correspondence with a Captain Middleton, who had for many years been in their service, and who, as would appear, was not disposed to go against their interests. The facts, however, which he obtained from this gentleman confirmed his former opinions, and rendered in his mind the existence of a passage into the Pacific quite conclusive. On the strength of these facts he prevailed on the Lords of the Admiralty to appropriate a ship of the navy for the purposes of discovery, and to give the command of her to Captain Middleton. The *Furnace* bomb and the *Discovery* pink were put under his orders, the latter being commanded by Mr. William Moor.

Middleton left England in 1741, and passed the winter in Churchill River, in latitude $58^{\circ} 56'$, where he was

unaccountably detained till the 1st of July, 1742. After leaving this river he stood along the coast to the northward, and on the 10th was in latitude $63^{\circ} 51'$, longitude $88^{\circ} 34'$ and encountered much floating ice.

Having got through the ice he observed a fair opening, or river, six or eight miles in width, and extending inland to the width of four or five leagues. The ships entered this opening to escape from the ice, and wait till it had dispersed. A good anchorage was found on the north side.

On the 15th a lieutenant and nine men well armed were sent in a boat to examine the river; they returned on the 17th, having gone as far up as the ice would permit, and until they found it to extend from side to side. The ships therefore fell down the river on the 21st, when, from a high hill a few miles above the entrance, it was perceived that the Welcome was still full of ice.

In one of the excursions up the river it was reported that many black whales and other fish had been observed, whereas none had made their appearance where the ships were anchored, nor below them. This circumstance afforded a hope that there might be some other opening into the Welcome than that by which they had entered. The lieutenant and the master were accordingly again sent up with directions to examine all the coves on the northern shore of the Wager.

After four days' absence they returned on the 1st of August. They reported that they had seen a great many black whales of the whalebone kind; that they had tried every opening they saw; and that they constantly found the tide of flood coming from the eastward, or in at the mouth of the Wager. This put an end to all expectations of finding any outlet from the Wager besides that through which they had entered.

On the 4th of August the ships left the river. In latitude $65^{\circ} 38'$, longitude $87^{\circ} 7' W.$, they entered another opening lying north-west of Wager River thirteen leagues

in width, and on the following day they were in latitude $66^{\circ} 14'$, longitude $86^{\circ} 28' W.$, at which place it had narrowed to eight or nine leagues. Though the tide came from the eastward, the appearance of a fair cape or headland and the trending of the land gave the greatest joy, all believing that this cape would prove the north-east point of America, and Middleton therefore gave it the name of Cape Hope.

The next day, when the fog had cleared away, they perceived the land to extend to westward of north, making a deep bay; and standing on towards the bottom of this bay, they saw plainly that they could not proceed above six or eight miles farther. On trying the set of the tide they found it slack water, and concluded therefore that they must have overshot the opening to the eastward at which the tide entered.

Here Middleton talks very unintelligibly of a *frozen strait* to the eastward of them. On the 8th, he says that, at ten in the morning, he went on shore, taking with him the gunner, carpenter, and his clerk, to try if he could find from whence the flood came into this strait or bay. He describes the entrance of the frozen strait, among the islands on the east side, as bearing east two leagues; he travelled, he says, about fifteen miles, to the highest mountain that overlooked the strait and east bay on the other side, and saw the passage the flood came in at. To the westward it was full of ice, not broken up. Finding no hope in that direction it was resolved in council to try the other side of the Welcome, from Cape Dobbs to Brook Cobham, to know if there was an opening there, and then return to England.

They found there was no opening, and so set sail for home. When they arrived, Mr. Dobbs at first appeared satisfied that Middleton had done all that could be done, and that a passage by the Welcome was impracticable. A little while after, however, he received an anonymous letter

stating that the frozen strait was a chimæra, and that everything Middleton had written about that part of the voyage was made out of his own head.

This letter, which was found afterwards to have been written by the surgeon and the captain's clerk, aroused Dobbs's suspicions that Middleton had not done his duty. He became satisfied, on inquiry, that such was the case, and accused him of acting treacherously towards government and of having taken a bribe of £5,000 from his old employers not to make any discoveries. Middleton denied the bribe, but seemed to admit that he might have said to some of the company before he left England, that he would discover the North-west Passage, and yet that none of those who were with him should be the wiser for it.

The dispute ran very high, and several of Middleton's officers took part against him, swearing that he had misrepresented facts, and tampered with them to conceal the truth. Dodds besides accused him of, not only having slighted examining the material parts of the coast, and the direction and height of the tide, where, by all former accounts, there was the greatest probability of a passage, but that "he even avoided the coast, and passed great part in the night, and has given false accounts of the course of the tides, and has made an imaginary frozen strait, in order to bring a tide of flood through it, to support the false facts he has laid down in his journal, and published in his chart of the course of the tide, from thence to conclude that there is no passage," &c. He adds, "that his whole conduct, from his going to Churchill until his return to England, and even since his return, makes it plainly appear that he intended to serve the company at the public expense."

The Lords of the Admiralty called on Middleton to answer the charge brought against him. He did so, but the Board of Admiralty did not appear to have been satisfied with his explanations, and seems to have agreed

with Mr. Dodds in the great probability of a North-west Passage, which Middleton either would not, or from ignorance could not, discover.

In the following year, as the natural result perhaps of these proceedings, an act of parliament was passed by which a reward was offered of twenty thousand pounds to any British subject who should discover a North-west Passage through Hudson's Strait to the western and northern ocean of America—a discovery which is stated in the preamble to be of great benefit and advantage to the trade of this kingdom.

The public opinion in favour of the existence of a North-west Passage was not in the least shaken by the failure of Captain Middleton. The charges of misconduct brought against him by Mr. Dodds, and the arguments of that gentleman in favour of such a passage, ultimately prevailed. The implied disapprobation of this officer's conduct by the lords commissioners of the Admiralty, and their recommendation of a liberal reward to be granted for the discovery of such a passage, had the effect that might have been expected. A plan was immediately set on foot for fitting out an expedition of discovery; and to defray the expenses it was proposed that a subscription should be opened, for raising the sum of ten thousand pounds, to be divided into one hundred shares, of one hundred pounds each.

A committee was appointed, and two small vessels were purchased, the *Dodds* galley, of 180 tons, and the *California*, of 140 tons; the command of the former was given to Captain William Moor, and of the latter to Captain Francis Smith. Mr. Ellis was engaged to proceed on the voyage as agent for the committee. Of this voyage two accounts have been published, one by Mr. Ellis, a plain, unaffected, intelligible narrative; the other by "the Clerk of the *California*," a pedantic, disputatious, dogmatic performance.

The two ships dropped down to Gravesend on the 30th of May, 1746. They fell in with ice on the 27th of the following month, and shortly after with abundance of driftwood. Next they passed the Revolution and Savage Islands, at the latter of which they had some communication with the Esquimaux.

On the 2nd of August they doubled Cape Digges, and on the 11th made the land on the west side of the Welcome, in latitude 64° N. From thence they sailed to Marble Island, and finding the flood-tide come down the coast from the northward had great hopes of a passage. The season, however, was far advanced, and it was resolved to make for Port Nelson as a suitable place to winter in. On the way the *Dodds* ran aground near Five-fathom Hole, about seven miles from Fort York. A beacon had been erected as a landmark, but it had been cut down by order of the governor of the Hudson's Bay Company, though "he very well knew," says Mr. Ellis, "who we were." This was not all; the governor ordered them on no account to come nearer the factory without producing a proper authority from the Government or the Hudson's Bay Company.

No attention was paid to this threat. The *Dodds* got off, and both ships proceeded up Hayes River, and moored in a creek about two miles above Fort York. The crew immediately began digging holes in the ground, in which to bury their wine and beer. They also built log-huts to protect themselves from the severity of the cold, frost, and snow,—“troublesome enough,” says Mr. Ellis, “but not seeming to merit the terrible reports given of these winters by some authors;” alluding no doubt to the exaggerated statements of Captain James.

By the 1st of November they were all comfortably hutted; but on the 2nd the frost was so severe that they could not keep the ink from freezing at the fire; the unburied bottled beer was frozen solid near the fire; and the cold

increased to such a degree, that it was thought prudent to remove the whole of the seamen out of the ships into the log huts. It seems, however, that the severity of cold is seldom felt above four or five days in a month, and generally about the full and change of the moon; at which times the wind is usually from the north-west, and very tempestuous; but at other times, though there is a hard frost, Mr. Ellis says it is pleasant enough; the winds being variable and moderate, and the weather favourable for shooting or catching animals in traps, chiefly rabbits and partridges, which they procured in vast quantities.

By constant exercise, when the weather would admit of it, and by burning good fires of wood, and by stopping up all crevices they appear to have suffered very little from the effects of cold; and we hear of none of those wailings with which James's doleful narrative—of which we have already spoken—is filled, at a place, too, full five leagues farther to the southward on the same coast.

Mr. Ellis observes, that the difference was so great between the cold without and the heated huts within, that persons on entering the latter frequently fainted, and remained apparently lifeless for some time; that if a door or window was but opened, the cold air rushed in with great fury, and turned the vapour inclosed within the hut into a snow shower. The alternate freezing and thawing of the juices of the logs caused them to split with a noise little inferior to the report of a musket. Spirits of wine did not freeze into ice, but became of the consistence of oil. The different kinds of game which they procured between November and April kept easily in a frozen state for any length of time without the use of salt. When any part of the human body was frozen, it became hard and white like ice, but by rubbing the part with a warm hand it went off in a blister; if left alone the part mortified. Extreme cold appeared to have pretty nearly the same effect as extreme

heat, and required nearly the same treatment: of the absolute degree of cold Mr. Ellis cannot speak, as they took out but one thermometer, which was broken before they reached the ice.

It was the 2nd of June before the winter finally took leave of them, and enabled them to get the vessels ready for dropping down to the mouth of the river; and it was not till the 24th that they succeeded in passing the shoals; they then stood to the northward for the purpose of discovery. To the northward of Churchill they had a sea clear of ice.

They proceeded to the northward as far as $65^{\circ} 5'$ in the Welcome, where they found the flood tide coming from the northward. This direction of the tide, and their nearness to Wager Strait, concerning which there had been so warm a dispute between Mr. Dodds and Captain Middleton, determined the two captains of the *Dodds* and *California* to enter upon an examination of it. The entrance of this inlet is formed by Cape Montague on the north and Cape Dodds on the south. About five leagues within it the width is contracted to about five miles, where the tide rushes with so much impetuosity, that Mr. Ellis says it seems like a sluice; beyond this it again opens out, and forms several good harbours and safe anchoring ground. At one hundred and fifty miles from the entrance the colour of the water was found to be perfectly bright and its taste very salt.

At this place a fall or rapid extended across the strait. The boats, however, passed it without difficulty, and found the depth on the far side so great that they could get no bottom with 140 fathoms of line. The water at the surface was fresh, but on sinking an empty bottle to a depth of thirty fathoms it came up full of water as salt as any in the Atlantic.

Soon after this the water suddenly shoaled, and it was discovered that the inlet terminated in two unnavigable

rivers, one of which flowed from a large lake. Thus ended all hopes of passage by Wager Strait.

It was now proposed to examine another opening to the northward, and which appears to have been Captain Middleton's *frozen strait*, or entrance into what is now called Repulse Bay. There was a difference of opinion however between the commanders and among the officers as to whether, consistently with their instructions, they could proceed with their work of exploration. Evidently most of the party were indisposed towards any further research. They urged the advanced season of the year, though it was only the 7th of August, and the winter seldom sets in till the beginning or middle of October.

After this nothing was done nor even attempted; and a council being held, it was determined to bear up without further delay for England, which was accordingly put in execution; and on the 29th of August they reached the western entrance of Hudson's Strait, with very pleasant warm weather, which lasted till the 3rd of September; and, after stopping some time at the Orkneys, arrived safely in Yarmouth Roads on the 14th of October, after an absence of one year, four months, and seventeen days.

"Thus," says Mr. Ellis, "ended a voyage of very great expectation, not only here, but throughout the greatest part of Europe."

The hopes of opening a navigable communication between the Pacific and the Atlantic oceans by a northerly course were not abandoned by the failure of Lord Mulgrave in 1773, of which the reader will find a notice in our chapter on, "The Way to the North Pole." Another voyage was ordered to be undertaken for that purpose, and Captain James Cook, who had twice circumnavigated the globe, was appointed to command it. On this occasion the plan of discovery which had hitherto been followed was reversed, and instead of attempting to pass from the Atlantic to the Pacific, it was now intended to try it from the

latter ocean into the former. The two ships fitted out for this purpose were the *Resolution* and the *Discovery*; the former of which was under the immediate command of Captain Cook, the latter of Captain Clerke.

It has been mentioned, that a reward of £20,000 was held out to ships belonging to any British subjects which should make the passage: but it excluded the sovereign's own ships; the reward was moreover confined to such ships as should discover a passage through Hudson's Bay. The act was therefore, on the present occasion, amended, and so framed as to include his majesty's ships, and to appropriate the reward for the discovery of "any northern passage" for vessels by sea between the Atlantic and Pacific Oceans; and it also promised the sum of five thousand pounds to any ship that should approach to within one degree of the North Pole.

On the 12th of July, 1776, the *Resolution* sailed from Plymouth Sound, leaving instructions for the *Discovery* to join her at the Cape of Good Hope; and after various discoveries in the southern hemisphere, the Pacific, and the two coasts of Asia and America, with which everybody is well acquainted, the two ships entered Behring's Strait on the 9th of August, 1779, and anchored near a point of land to which Captain Cook gave the name of Cape Prince of Wales: he afterwards ascertained it to be the western extremity of the whole continent of America. Some elevations like stages and others like huts were seen on this part of the coast, and they thought also that some people were visible.

They stood over to the westward, and entered a bay on the east coast of Asia, at the head of which was a village and some people. On landing they saw thirty or forty men, each armed with a spontoon, and a bow and arrows, drawn up on a rising ground. As the people of the ships drew near, three of the natives came down to the shore, took off their caps, and made low bows.

An exchange of presents followed: those received by Captain Cook were two foxskins and a couple of sea-horse teeth. In spite of these courtesies the natives were very cautious, and seemed ready to make use of their spears. They exchanged their arrows for trifling articles, but nothing could induce them to part with a spear or a bow. They differed in their persons and features entirely from the natives of north-west America: the latter being low of stature, with round faces and high cheek-bones, whereas the former had long visages and were stout and well made; they had their ears bored, and some had glass beads hanging from them, but no lip ornaments like the Americans. They had numerous dogs, probably used to draw their sledges, of which several appeared in one of the huts; but Captain Cook thought that they might also constitute a part of their food, as several were observed lying dead which had been killed that morning.

Captain Cook discovered the coast of these people to extend many degrees farther to the east than the position assigned to it in the maps of that day. He thus ascertained distinctly the breadth of the strait that separates Asia from America; for though Behring had sailed through it before, he had not descried the latter continent, and consequently remained ignorant of the importance of his discoveries.

Our navigators now pushed forward into the Northern Ocean. They soon fell in with ice, which gave them reason to suspect the impossibility of continuing their voyage much farther. At length, on the 18th of August, when after repeated struggles they had attained the latitude of $70^{\circ} 44'$, they saw the ice before them extending as far as the eye could reach, forming a compact wall of about six feet high. It was covered with a multitude of walruses or sea-horses, which though coarse food, were preferred by the seamen to salt provisions.

"The season," says Captain Cook, "was now so far

advanced, and the time when the frost is expected to set in so near at hand, that I did not think it consistent with prudence to make any further attempt to find a passage into the Atlantic this year in any direction, so little was the prospect of succeeding." Accordingly, on the 30th of August, he stood to the southward, resolved to employ the winter in completing his survey of the Sandwich Islands. There the celebrated navigator lost his life.

Captain Clerke now became commanding officer, and Lieutenant Gore was appointed commander of the *Discovery*. On the 15th of March, 1779, they left the Sandwich Islands, and stood to the northward, by the way of Kamtschatka, to follow up the discovery of a passage.

He touched at the harbour of St. Peter and St. Paul in Awatska Bay, where he was treated by the Russians with unbounded hospitality. Then, passing Behring's Strait a second time, he penetrated as far as $70^{\circ} 33' N.$, where the same obstacle which had prevented the progress of the ships the preceding year forbade him to advance any farther. He met here with a firm barrier of ice, seven leagues farther to the south than that which had stopped the progress of Captain Cook.

The impossibility of a passage by the north was now thought to be sufficiently proved, and it was resolved to proceed homewards; the chief purpose of the expedition having been thus answered.

"I will not," says Captain King, the writer of the voyage, "endeavour to conceal the joy that brightened the countenance of every individual, as soon as Captain Clerke's resolutions were made known. We were all heartily sick of a navigation full of danger, and in which the utmost perseverance had not been repaid with the smallest probability of success. We therefore turned our faces toward home, after an absence of three years, with a delight and satisfaction which, notwithstanding the tedious voyage we had still to make, and the immense distance we had to

run, were as freely entertained, and perhaps as fully enjoyed, as if we had been already in sight of the Land's End."

To give facility to the success of Captain Cook's expedition, in the event of his reaching Baffin's Bay, Lieutenant Pickersgill was directed to proceed to Davis's Strait in his majesty's armed brig the *Lion*, for the protection of the British whalefishers; and that being accomplished, to continue up the strait into Baffin's Bay, and explore the coasts thereof, taking care to leave it in time to secure his return to England in the fall of the year. Pickersgill was not instructed to attempt the passage; the object of sending him into Baffin's Bay being merely to obtain such information as might be useful the following year to the vessel which was intended to be sent out to look for Captain Cook, about the time he might be expected to approach the eastern side of America in the event of success.

The *Lion* left Deptford on the 25th of May, 1776; and on the 7th of July saw Cape Farewell, near which, on the following day, he was set fast in a field of ice; "the land at the same time forming one of the most romantic scenes that can be described, being very high and rugged, presenting to the eye mountainous rocks and spires of almost every shape, intermixed with patches of snow, which contrasted finely with the deep blue of the mountains, affording the most pleasing sensations, and at the same time exhibiting either grandeur or horror as the sun shone forth, or as it was cloudy." Among the field-ice were several lofty islands, on one of which was much earthy matter, many feet deep, and pieces of rock several hundred pounds' weight each, with gravelly streams of fresh water pouring down its sides. The whole mass was drifting to the southward.

Pickersgill in proceeding to the northward seems to have kept as close to the shore as the ice and the rocks would permit. At last he anchored the *Lion* in a place which he called Mosquito Cove, from the swarms of this insect, bred,

as he supposes, in the pools of snow-water among the rocks. The latitude of this place was found to be $64^{\circ} 56' 20''$ N., longitude $51^{\circ} 53' 30''$ W. Here he had some communication with the natives, who are described as well-behaved, diffident, and honest.

On leaving this place Lieutenant Pickersgill continued standing as close along the shore as he could, but on the 3rd of August he made up his mind that this mode of navigation was a mistake. "As I design to discover sea," he says, "and not *land*, I shall direct my way *mid-channel*." He did so; but the very next day all his resolution forsook him and he took the gloomiest possible view of the state of his vessel, the health of his men, and the size of the neighbouring icebergs.

He stood on as far as $68^{\circ} 10'$, and then turned. Creeping along the shore as usual among the rocks and islands and fields of ice, he reached Cape Farewell on the 24th of August. On the 4th of September he ran into Porcupine Harbour, on the coast of Labrador. Here he remained till the 27th, and on the 29th his journal breaks off thus,—“Being now taken ill, which illness continued for almost all the passage, and as nothing material occurred during it, I hope their lordships will excuse the short remainder until I give my general thoughts upon the voyage and the hopes of a passage.” It does not appear, however, that their lordships gave him any further trouble on either subject: they superseded him in the command of the *Lion*, not deeming him a proper person to be sent out on a similar voyage the following year.

The *Lion* was again fitted out under the command of Lieutenant Walter Young. He sailed from the Nore on the 23rd of March, 1777, and the whole journal of his voyage is as meagre as if it had been the record of the most ordinary expedition. He reached $72^{\circ} 45'$, and then turned; the multitude of ice-bergs being to all appearance the reason of his not advancing farther. The talents of Young,

as it afterwards appeared, were more adapted to contribute to the glory of a victory,* as commander of a line-of-battle ship, than to add to geographical discoveries by encountering mountains of ice and exploring unknown coasts.

* He died in the West Indies, when captain of the *Sandwich*, bearing the flag of Sir George Rodney, in May, 1781.



A CORKED-SOLED BOOT FOR ARCTIC USE.

CHAPTER XIII.

ENGLISH VOYAGES IN SEARCH OF A NORTH- WEST PASSAGE (*continued*).

SIR JOHN ROSS'S VOYAGE OF 1818—THE ARCTIC HIGHLANDERS—RED SNOW—A VISION OF MOUNTAINS—DISAPPOINTMENT AND DISCUSSION—PARRY'S FIRST EXPEDITION IN 1819—SIR JOHN ROSS'S MOUNTAINS EXPLODED—WINTER HARBOUR IN MELVILLE ISLAND—PREPARATIONS FOR WINTER—WINTER AMUSEMENTS—EXCURSION ACROSS MELVILLE ISLAND—ATTEMPTS TO GO WESTWARD—THE AURORA BOREALIS—SUPPOSED SITE OF THE MAGNETIC POLE—RESULTS OF THE VOYAGE.

WHEN the war which terminated in the battle of Waterloo was at an end, and the British Government had time to employ some portion of its marine in the labours of peace, it was determined to send an expedition to Baffin's Bay, in the hope that the examination of the shores of that great sea might detect the long-wished-for North-West Passage.

For this purpose the *Isabella* and the *Alexandra* were fitted out and placed under the command of Captain, afterwards Sir John Ross, an officer well experienced in the navigation of northern seas. The *Alexander* was commanded by Lieutenant Parry, a young officer whose name afterwards became honourably associated with north-western discovery.

The ships put to sea on the 18th of April, 1818. On their arrival on the western coast of Greenland they found the ice abundant; and the governor of one of the Danish settlements told them that for some years he had found that the winters were growing more and more severe. From observations made at the island of Waigatz it appeared that this coast was erroneously laid down in all the charts; the error in longitude in those of the Admiralty amounting to more than 5°.

In latitude $75^{\circ} 54'$, when the ships had passed what was hitherto deemed the inhabited part of Greenland, a party of Esquimaux were seen approaching the vessels over the ice. With some difficulty they were brought to a parley with the strangers.

Though separated from the Greenlanders by a distance not exceeding two degrees, these people were still ignorant that there were any human inhabitants on the earth besides themselves. They could hardly be brought to touch the English, whom they regarded at first as supernatural beings. One of them addressed the ship with much solemnity: "Who are you? whence came you? is it from the sun or the moon?" This people, who from their ignorance of the canoe, might be inferred to want some of the arts and comforts of other Esquimaux tribes, yet had the singular advantage of being acquainted with iron, of which they had contrived to fashion themselves knives. They explained that they found this valuable metal in a mountain composed entirely of it, and that breaking off small fragments they hammered them with stones. From the appearance of the metal, and its analysis, it has been conjectured to be meteoric iron, and the iron mountain intimated by the natives has perhaps no other existence than what it owes to the error of the interpreter, and it is to be understood merely as a large mass. To this tribe, the ugliest of the Esquimaux race, Captain Ross gave the name of Arctic Highlanders.

A little farther on our voyagers saw cliffs covered with snow of a deep red colour: when thawed it looked like muddy port wine. Red snow had been often seen before, and observed by skilful naturalists in the Alps and Pyrenees, but how it got that colour had been never satisfactorily explained. Red snow from Baffin's Bay was brought home and submitted to the examination of naturalists and chemists; some pronounced that the colouring matter was of an animal, others of a vegetable nature. The question seems

now decided in favour of the latter opinion, an extremely minute lichen being supposed to vegetate even on the snow.

Captain Ross, though an experienced commander, appears to have been deficient in the confident hope and ardour which are requisite qualifications in those who conduct voyages of discovery. He seems to have felt little interest in the solution of geographical problems, and his indifference towards the object of the expedition frustrated its intentions. He passed by Wolstenholm Sound and Whale Sound, and never even deigned to examine them; the great inlet on the northern coast of Baffin's Bay which Baffin named Sir Thomas Smith's Sound was passed at so great a distance as to be barely discernible. But the carelessness with which he examined those interesting shores was not the only fault of which Captain Ross was guilty. He interposed his private views when inquiry ought to have decided the question, and pronounced those inlets to be only bays, the terminations of which he asserted, on his single authority, to be visible.

On descending the western shore of Baffin's Bay, towards the south a great change was observed, the sea was clear of ice, and extremely deep; its temperature was increased, the land was high, and the mountains, in general, were free from snow. A noble inlet, nearly fifty miles wide, with high land on both sides, now offered itself to view.

As we have arrived now at the truly extraordinary period of this voyage, we may as well quote from the official account.

"August 28th. During the night we had snow and thick rain, and at one time were in great danger, but we carried sail eastward, in which direction clear water was discovered at daylight. At three we succeeded in getting completely clear of ice, and once more found ourselves in the open sea. The thick rain continued until 5 a.m., when it gradually ceased, being succeeded by cloudy weather and very little wind. At noon we had an indifferent observation, and

made several tacks to weather the ice, but made very little way.

"Between three and four the weather cleared up, and gave us a view of the land, *which consisted of mountains, being the highest we had yet seen.* This *land* could not be approached nearer than five leagues, on account of the packed ice; but, on the other hand, from south to north, nothing but clear water was to be seen, the ice seeming to have been packed into the bottom of Baffin's Bay by the southerly gales. The ships continued to beat along the coast in a direction nearly on the meridian, and we proceeded slowly to the southward.

"The mountains from Cape Cunningham, towards the south, now appeared to be only partially covered with snow, and even at the very tops of them black rocks were plainly seen. Their sides, as they appeared from the sea, were almost clear of snow; and for this short distance the country appeared as habitable as that part of the opposite coast which we found to be actually inhabited.

"*August 30th.* The weather being still thick and cloudy, we continued to steer so as to gain the middle of the opening, making about a south by west course; but the wind was high and variable, and not much progress was made. About four we had a shower of rain, and soon afterwards the fog cleared away a little, and we saw two icebergs at a considerable distance; we then altered our course in the manner most likely to answer for getting to the westward, and carried all sail.

"About ten we saw the land which formed the northern side of the opening, extending from west to north in a chain of high mountains covered with snow. Soon afterwards the south side of this opening was discovered, extending from S.W. to S.E., forming also a chain of very high mountains. In the space between west and southwest there appeared a yellow sky, but no land was seen, nor was there any ice on the water, excepting a few ice-

bergs; the opening, therefore, took the appearance of a channel, the entrance of which was judged to be forty-five miles wide. Having had good observation for time and a meridian altitude of the sun, the latitude and longitude were accurately determined, and at the same time the bearings of the land were taken and registered. Divine service was performed, and in the afternoon, the wind having obliged us to stand to the south side, we had an excellent view of the most magnificent chain of mountains which I had ever beheld.

"These mountains, which take their rise from the sea at Cape Byam Martin on the east, and from a low plain near Catherine's Bay on the west, terminate in sharp lofty peaks; and the rocks which form them being, on one side or the other, and often on every side, too perpendicular for the snow to rest upon, they are distinctly seen above it, displaying very remarkable forms. In one place, nearly between Cape Fanshawe and Elizabeth's Bay, two rocks resembling human figures of a gigantic size, in a sitting posture, were seen on the highest peak; and as it was considerably above the clouds, their appearance was both extraordinary and interesting.

"The snow appeared to be deep in the valleys of the interior, but the ravines next the sea were only partly filled with it, and the precipices near the foot of the mountains were perfectly bare. The low and level tract of land, which has already been described as forming Catherine's Bay, was perfectly clear of snow, and was to all appearance the most habitable situation on the coast.

"The rest of the day was spent in beating to the westward. All sail was carried, and every advantage taken of the changes in the direction and strength of the wind. As the evening closed the wind died away; the weather became mild and warm, the water much smoother, and the atmosphere clear and serene.

"During this day much interest had been excited on

board by the appearance of the strait; the general opinion, however, was that it was only an inlet. The land was partially seen extending across; the yellow sky was perceptible; and as we advanced the temperature of the water began to increase. The mast-head and crow's-nest were crowded with those who were most anxious, but nothing was finally decided upon at the setting of the sun.

"Soon after midnight the wind began to shift, and the ship came gradually up, enabling us to stand directly up the bay. I therefore made all sail, and left the *Alexander* considerably astern. At a little before four o'clock a.m. the land was seen at the bottom of the inlet by the officers of the watch; but, before I got up upon deck, a space of about seven degrees of the compass was obscured by the fog. The land which I then saw was a high ridge of mountains, extending directly across the bottom of the inlet. This chain appeared extremely high in the centre, and those towards the north had at times the appearance of islands, being insulated by the fog at their bases. Although a passage in this direction appeared hopeless, I determined to explore it completely, as the wind was favourable, and therefore continued all sail. I sounded, and found six hundred and seventy-four fathoms, with a soft muddy bottom.

"Mr. Beverly, who was the most sanguine, went up to the crow's-nest, and at twelve reported to me that before it became thick, he had seen the land across the bay, except for a very short space. Although all hope was given up, even by the most sanguine, that a passage existed, and the weather continued thick, I determined to stand higher up, and put into any harbour I might discover, for the purpose of making magnetical observations.

"About one, the *Alexander* being nearly out of sight to the eastward, we hove to for half an hour, to let her come up a little; and at half-past one, she being within six or

seven miles of us, we again made all sail. I intended to have sounded during that interval, but found the north-east swell so much increased, and the drift so great, that it was impracticable.

"At about half-past two (when I went off deck to dinner) there were some hopes of its clearing, and I left orders to be called on the re-appearance of land or ice a-head. At three the officer of the watch, who had just been relieved, reported, on his coming into the cabin, that there was some appearance of its clearing at the bottom of the bay. I immediately anchored, went on deck, and soon after it completely cleared for about ten minutes, when *I distinctly saw the land round the bottom of the bay, forming a chain of mountains connected with those which extended along the north and south side.* This land appeared to be at the distance of eight leagues. The north corner, which was the last I made out, was a deep inlet; and as it answered exactly to the latitude given by Baffin of Lancaster Sound, I have no doubt it was the same, and considered it a remarkable instance of the accuracy of that able navigator.

"At a quarter past three, the weather again became thick and unsettled, and being now perfectly satisfied that there was no passage in this direction, nor any harbour into which I could enter, I tacked to join the *Alexander*, which was at the distance of eight miles."

One who was on board the other vessel says, "At this time their distance from the northern shore was estimated at seven or eight leagues, and from the southern six or seven. But the sanguine hopes and high expectations excited by this promising appearance of things were but of short duration; for about three o'clock in the afternoon the *Isabella* tacked, much to the surprise of all on board the *Alexander*, as they could not see anything like land at the bottom of the inlet, nor was the weather calculated at the time for seeing any object at a great distance, being somewhat hazy. When she tacked, the *Isabella* was three miles

ahead of the *Alexander*, so that, considering the state of the weather, and a part of the additional distance, more allowance is to be made for his not seeing the land at all. Ocular demonstration would certainly have been very satisfactory to them on a point in which they were so much interested, but it is not on this circumstance that the error of Captain Ross's judgment is based. The opinion he formed of the certainty of land at the bottom of the inlet, or, according to Baffin's statement, the sound, were at direct variance with that which Lieutenant Parry had formed, and it was certainly most galling and mortifying to that officer to see himself thwarted in the prosecution of a great design by the erroneous judgment of his commander."

Proceeding, after his extraordinary vision of mountains, to the southward, Captain Ross sailed along a coast of which but little was known. But he continued to exhibit the utmost indifference to add to the stock of geographical knowledge. The ships held their course at such a distance from the land, that the shore was seen but imperfectly and never examined. On the 1st of October they had reached the entrance of Cumberland Strait, where much still remained to be done by a commander panting for discovery; but Captain Ross directed his course homeward, and arrived in England without any accident.

The failure of Captain Ross did not dishearten the advocates of a North-west Passage; it added new particulars in favour of their views. It confirmed the authenticity of Baffin's third voyage; for the old charts of Baffin's Bay, which had evidently been derived from that navigator, approached too near truth to be the works of imagination. It even proved the existence of those numerous inlets towards the west which Baffin had thought fit to call sounds. The great depth of the sea in these inlets, and the high temperature of the water, showed that they were something more than mere gulfs.

Government felt the force of these arguments, and fitted out two ships, the *Hecla* bomb, and the *Griper* gunboat, to recommence the examination of these northern seas. Lieutenant Parry, who had sailed with Captain Ross, and who dissented from him as we have seen as to the impracticability of the North-west Passage, was appointed to command the expedition.

The ships set sail on the 5th of May, 1819, and on the 15th of June Cape Farewell was seen at a distance of over forty leagues. The next day they fell in with a stream of ice and several icebergs.

As they advanced northwards up Davis's Strait and Baffin's Bay, the ice on the westward presented a continuous barrier, through which it was found impossible to force a way. After many ineffectual attempts the ships reached the latitude of 73° , when Captain Parry, being unwilling to pass the latitude of Sir James Lancaster's Sound, resolved to make another effort to penetrate the ice. He succeeded in doing this, but it took him seven days, the ships having to be worked through an accumulation of ice about eighty miles in breadth.

As soon as the western side of this barrier was gained, our navigators were greeted by some favourable appearances. The sea was deep; indeed they could find no bottom with three hundred and ten fathoms of line; and the swell of the ocean was also perceptible. The temperature of the water had risen about six degrees, and there was no ice. They found themselves also in a great resort of whales: over eighty large ones were counted in the course of a single day.

On the 31st of July our navigators visited the spot in Possession Bay where a landing had been effected the preceding year. They found the flag-staff which had been erected still standing, and traces of footmarks were still strongly marked in some places. Evidently very little snow or sleet had fallen since the last visit.

The explorers were now about to enter that great inlet or sound to which their instructions had principally directed their attention. The hope of finding a North-west passage rested chiefly on their success in this part of their mission. They crowded all sail, while a fresh breeze carried them rapidly to the westward.

"It is more easy to imagine than describe," says Captain Parry, "the almost breathless anxiety which was now visible in every countenance, while, as the breeze increased to a fresh gale, we ran quickly up the sound. The mast-heads were crowded by officers and men during the whole afternoon, and an unconcerned observer, if any could have been unconcerned on such an occasion, would have been amused by the eagerness with which the various reports from the crow's-nest were received; all, however, favourable to our most sanguine hopes."

Before night they had passed the limits explored in the last voyage, and yet could discern no land in the direction of their progress. They had reached the longitude of $83^{\circ} 12'$; and the two shores of the passage, as far as could be seen, were observed to continue full fifty miles asunder.

The expedition proceeded onwards to the westward. The sea was deep, had the colour of the ocean, and was quite free from ice, whilst a long swell rolled from the south and east. Our navigators were in high spirits: they began to flatter themselves that they had actually reached the polar sea. But their joy soon received a check; they discovered land ahead. It proved to be only a small island, but ice lay between it and the northern shore, and they could not pass that way to the west.

To the south a broad inlet, ten leagues wide, seemed deserving of being explored. They entered it, expecting to find a clearer channel to the westward. They had hitherto observed that, from the moment they had entered Sir James Lancaster's sound, the sluggish movement of the compass-card, and the irregularity occasioned by the at-

traction of the ship's iron, had uniformly increased as they sailed westward; but in descending this inlet the compass actually lost the power of motion, and they saw for the first time "the curious phenomenon of the directive power of the needle becoming so weak as to be completely overcome by the attraction of the ship; so that the needle might now be properly said to point to the north pole of the ship."

The inlet in which they were proceeding opened out as they advanced southward; and as the western side continually receded towards the south-west, their hopes of reaching the open sea in that direction increased; but where the land seemed to terminate in that direction a barrier of ice prevented the farther progress of the ships; however, no land was seen which could induce our navigators to doubt the practicability of proceeding much farther to the south-west, whenever openings in the ice would permit it.

The ships had proceeded down this inlet about 120 miles from its mouth. On their return to Barrow's Strait, as they named the great inlet of which Lancaster Sound is the mouth, the sea, which a few days before had been covered with ice, was now perfectly free. They continued therefore to advance to the westward, though not very rapidly, owing to the lightness of the winds.

On the 22nd, in longitude $92\frac{1}{4}^{\circ}$, an opening, eight leagues in width, was seen to the north. In looking up this inlet, which was named Wellington Channel, neither land nor ice could be seen from the masthead. The appearance of this opening, as it convinced the navigators that they were among islands, intersected by numerous channels, encouraged their hopes that they had actually reached the polar sea.

They advanced a little farther, and their difficulties increased. The passage was studded with small islands, the water was shoal, the ice was troublesome, and the fogs

were frequent. They still, however, proceeded westward along the shore of a large island named Bathurst Island. A party landed here, and found the remains of some Esquimaux habitations. In many spots recent traces of the rein-deer and musk-ox were seen. The magnetic observations made here, compared with those made in Prince Regent's Inlet, "led to the conclusion," says Captain Sabine, "that we had, in sailing over the space included between those two meridians, crossed immediately to the northward of the magnetic pole, and had undoubtedly passed over one of those spots upon the globe where the needle would have been found to vary 180° ; or, in other words, where its north pole would have pointed due south. This spot would, in all probability, at this time be somewhere not far from the meridian of 100° west of Greenwich."

As the explorers proceeded towards the west, to the farthest extremity of another large island, which they named Melville Island, the difficulties which they had to encounter from ice and foggy weather increased. On the 4th of September, however, they succeeded in passing the meridian of 110° west longitude, by which they became entitled to the first sum in the scale of rewards offered by parliament, namely, £5000. A projecting point of land in this place was named from the circumstance Bounty Cape.

A good roadstead was discovered not far from this point; it was named the Bay of the *Hecla* and *Griper*. Here the ensigns and pendants were hoisted, "and it created in us," says Captain Parry, "no ordinary feelings of pleasure to see the British flag waving for the first time in these regions, which had been hitherto considered beyond the limits of the habitable world."

The winter was now fast setting in. The new ice was forming, and it was with difficulty that the ships were forced through it to Winter Harbour, at the head of the

Bay of the Hecla and Griper. It took three days to cut a canal with saws, the average thickness of the ice being seven inches, and the whole length of the canal nearly two miles and a third. As soon as the ships were fairly moored in their winter quarters the men hailed the event with three loud cheers.

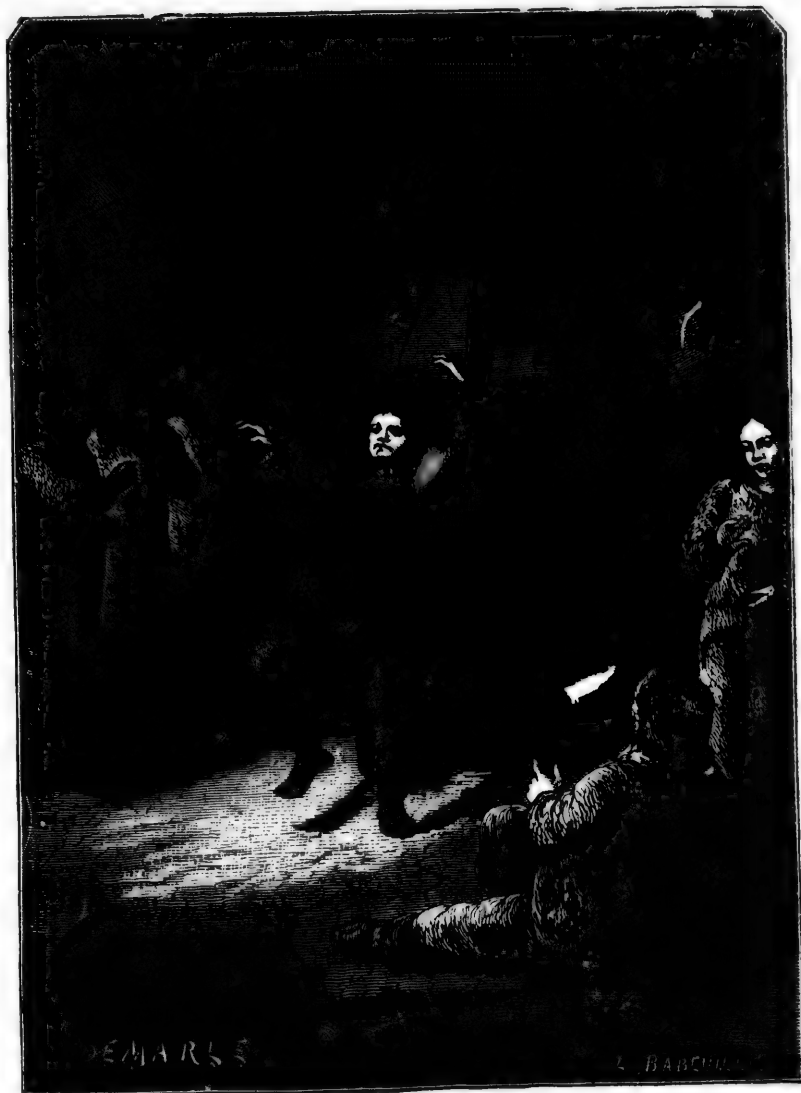
Preparations were now made to meet the severities of a long and dreary winter of eight or nine months, during three of which they were to be debarred from the cheering light of the sun. All the heavy stores were removed on shore, so as to leave the decks clear for ventilation and exercise. The ships were roofed entirely over with thick wadding-tilts, such as are used for covering wagons. The snow was banked up against them without, while stoves and ovens were provided for their warmth within. But, notwithstanding these precautions, it was found that the vapour generated within the ships, instead of dissipating itself as is usual in a temperate climate, condensed upon the beams and sides in such a degree as to keep them constantly wet; and as this inconvenience could be only partially removed by a current of heated air, it was found expedient to allow the frozen vapour to settle on the sides of the ship internally in a solid plate of ice.

On their first arrival in Winter Harbour parties were sent out to hunt, and found abundance of grouse and reindeer. Before the end of October, however, these animals had all migrated from Melville Island, and foxes and wolves alone remained through the winter. During the severe season no bears were caught sight of, and one solitary seal was all that appeared. The sporting feats of the crew were not without their danger; some of the men who neglected the necessary precautions were severely frostbitten, and the torpor and suspension of the mental faculties produced by extreme cold, and resembling the effects of intoxication, were often perceptible in the hunting parties.

The greatest danger to be apprehended in the situation in which our navigators were placed was the liability to depression of spirits, from the want of bodily exercise, the absence of light, and the gloomy monotony of external objects. It is well known that mental depression predisposes to scurvy; while cheerfulness, on the other hand, fortifies the bodily constitution and mitigates the inconveniences which cannot be got rid of.

To amuse the men Captain Parry and his officers got up a play, the first performance taking place on the 6th of November, the day on which the sun sank below the horizon not to rise again for three tedious months. The sailors were delighted with the performance, and characteristically testified their approbation by three hearty cheers. The active minds of the officers needed more strenuous employment: they engaged in the composition of a Christmas piece, in which reference was made to the situation of the ships and the service on which they were engaged. They also contributed to a weekly newspaper, entitled *The North Georgia Gazette and Winter Chronicle*. Captain Sabine was the editor of this paper. It consisted of twenty-one numbers, and was printed on the return of the expedition. The dramatic performances proved particularly successful in exhilarating the men, and also afforded them employment in fitting up the theatre. They were, therefore, repeated once every fortnight during the dark season.

Notwithstanding the intense cold and the darkness, the officers generally rambled a little on shore every day. They experienced no inconvenience, although the thermometer was from 30° to 50° below zero, provided there was no wind; but the least breath of air stirring made the cold intolerable, even when the thermometer was above zero. But these walks afforded no amusement; the dreary sameness of the scene, the torpid stillness and death-like silence, were calculated to inspire no feelings but those of melancholy.



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Ice-World Adventures.

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In this way the shortest day arrived, or rather, the middle of the long night. A little before and after noon on that day there was as much light as to enable them to read small print held towards the southern horizon, and to walk comfortably for two hours. During the month of January the thermometer generally ranged from 30° to 40° below zero. The scurvy now made its appearance in one instance, in the crew of the *Hecla*; and for some time its obstinacy caused not a little alarm. The liberal use of antiscorbutics, however, at length subdued it. Nothing contributed more to its cure than a daily supply of fresh mustard and cress, which Captain Parry contrived to raise in his cabin, in boxes filled with earth, and placed near the stove-pipe. Though colourless for want of light, these herbs had as pungent a flavour as if they had grown in the open air. The officers still continued to walk on shore, though, as the thermometer in the open air sank at times to 50° below zero, they underwent a transition in passing from the open air to the cabin of from 80° to 100° , and in some instances 120° of temperature.

On the 7th of February the full orb of the sun was visible above the horizon; this was the signal for making a show of preparations to leave this gloomy abode, though the officers were well aware that many tedious months must elapse before they could be free from their icy prison. The month of February was by far the coldest part of the arctic winter. On the 15th the thermometer descended to 55° , and remained for fifteen hours not higher than 54° below zero. "We amused ourselves," says Captain Parry, "in freezing some mercury during the continuance of this cold weather, and by beating it out in an anvil previously reduced to the temperature of the atmosphere. It did not appear to be very malleable in this state, usually breaking after two or three blows from the hammer."

On the 24th the observatory constructed on shore was discovered to be on fire. All hands instantly set to work

to extinguish the flames by heaping snow upon them; the thermometer at this time was 46° below zero, or 76° below the freezing point. The men's faces at the fire presented a singular spectacle; almost every nose and cheek was frostbitten, and became quite white in five minutes after being exposed to the weather; so that the medical men, with some others appointed to assist them, were obliged to go constantly round while the men were working at the fire, and rub with snow the parts affected in order to restore animation."

Captain Sabine's servant, in his anxiety to save the dipping needle from the observatory, ran out without his gloves. His fingers in consequence were so completely frozen, that his hands being plunged into a basin of cold water, the surface was immediately covered with a cake of ice from the intensity of the cold they communicated to it; but animation could not be restored, and it was found necessary in this case to resort to amputation.

As the cold relaxed, the ice which had for some time lined the ship's sides began to melt, and about the 8th of March it became necessary to scrape off this coating. "It will scarcely be credited," says Captain Parry, "that we this day (8th of March) removed above one hundred bucketfuls of ice, each containing from five to six gallons, being the accumulation which had taken place in an interval of less than four weeks; and this immense quantity was the produce chiefly of the men's breath and of the steam of their victuals during meals."

The middle of April arrived without any perceptible thaw; but on the 30th the temperature of the atmosphere underwent a remarkable change, the thermometer rising to the freezing point, or as in this case it might be termed more properly, the thawing point, being the first time it had been so high for eight months. To the men this appeared a summer temperature; and the authority of the officers had to be interposed to prevent them from throwing

aside their winter clothing. Animation now began to spread through the surrounding scene.

The first ptarmigan made its appearance on the 12th of May, and the day after were seen the tracks of reindeer and musk-oxen bending their course to the north. Thus their migration takes place in the first fine weather after the return of constant daylight. These symptoms and intimations of their approaching liberation were viewed with delight by our navigators; but a shower of rain which fell on the 24th of May created in them even feelings of surprise. "We were so unaccustomed," says Captain Parry, "to see water naturally in a fluid state at all, and much less to see it fall from the heavens, that such an occurrence became a matter of considerable curiosity, and I believe every person on board hastened on deck to witness so interesting as well as novel a phenomenon."

On the 1st of June Captain Parry with some of his officers commenced an excursion into the interior of Melville Island. They reached its northern extremity without perceiving any land farther to the northward or the westward. On returning from this journey, which occupied fifteen days, they found the vegetation round Winter Harbour shooting forth with wonderful vigour, and the ice was covered with innumerable pools of water. The purple flower of a species of saxifrage imparted beauty and gaiety to a scene hitherto dreary in the extreme.

By the middle of July the thermometer stood as high as 56° to 60° ; and at length, on the first day of August, the ships were able to effect their escape from Winter Harbour; but the immense quantity of floating ice with which the strait was beset rendered their progress extremely difficult. They had to face dangers which ships less strong, or men less resolute, vigilant, and skilful could not have escaped from. They still struggled to proceed towards the west, but all their efforts were of no avail to get beyond the south-west extremity of Melville Island

and on the 16th of August the attempt was given up as impracticable. The farthest point which the expedition reached in the polar sea was in latitude $74^{\circ} 26' 25''$, and longitude $113^{\circ} 46' 43''$.

On leaving Sir James Lancaster's Sound, the ships stood southward along the western shore of Baffin's Bay, with the view of surveying a coast but little known, and imperfectly seen in the former expeditions. It was found to be indented with numerous deep bays or inlets; in one of these, about the latitude $70^{\circ} 22'$, a tribe of Esquimaux was met with, of whom Captain Parry says, "Upon the whole, these people may be considered as in possession of every necessary of life, as well as most of the comforts and conveniences which can be enjoyed in so rude a state of society."

On the 26th of September the ice was seen for the last time, and about the middle of November the ships arrived in the Thames. The crews returned with unimpaired health, after an absence of nearly eighteen months from their native land.

Besides the great additions to our geographical knowledge made by this expedition, it procured a copious stock of materials for scientific investigation. The magnetic phenomena observed, and those resulting from extreme cold, were highly curious and important. During the winter months in those regions, such is the extreme dryness of the atmosphere that no snow whatever falls, nor does a cloud, indeed, ever appear in the heavens. Whatever moisture might exist in the air floats about in minute *spicula* or needles, in various forms of crystallisation. In very cold weather the breath of a person at a little distance looked just like the smoke of a musket newly fired; and a party of men working on the ice seemed to be enveloped in a thick cloud. The smoke from the funnel, instead of ascending, floated horizontally for some miles from the ship. It is remarkable that the *aurora borealis*, though

frequent, was by no means so vivid, or so rapid in its coruscations, as in a lower latitude. Between the parallels of 60° and 66° it usually displays a vivid blaze of light; but here it was extremely faint, and appeared almost always towards the southern horizon. From the variations and dipping of the magnetic needle observed during this expedition, it was concluded that the magnetic pole might be supposed to be somewhere about latitude 72° in longitude 100° , or in the neighbourhood of Regent's Inlet.



AN ARCTIC VOYAGER IN A CANVAS SUIT.

CHAPTER XIV.

ENGLISH VOYAGES IN SEARCH OF A NORTH- WEST PASSAGE (*continued*).

PARRY'S VOYAGES—PREPARATIONS FOR A SECOND VOYAGE IN 1821-23—ITS OBJECTS—THE SHIPS ENTER FROZEN STRAIT—DUKE OF YORK'S BAY DISCOVERED—FROZEN IN AT WINTER ISLAND—AN ESQUIMAUX VILLAGE—A CLEVER WOMAN—ESQUIMAUX MAP-DRAWING—THE ICE BREAKS AND THE SHIPS GET FREE—NAVIGATION UNDER DIFFICULTIES—WINTER QUARTERS AT IGLOOLIK—SAWING A CANAL IN THE ICE—RETURN HOME—PARRY SETS SAIL ON A THIRD VOYAGE, 1824—WINTERING IN REGENT'S INLET—AN UNFORTUNATE SPRING SEASON—THE *FURY* CRUSHED IN THE ICE AND ABANDONED—FRANKLIN'S EXPEDITION OF 1845—IN HIGH SPIRITS—ASKING A WHALER TO DINE—THE LAST SIGHT OF THE SHIPS.

IF the voyage of Captain Parry did not lead to the discovery of the North-west Passage, it was at least productive of information of a promising kind. There could be no doubt that he had discovered straits communicating with the polar sea, and through which his progress was barred by accumulations of ice, which in all probability occasionally break up, and allow a free passage. The opinion of the old navigators that the northern portion of America is broken land, or rather a cluster of large islands, was rendered still more probable; and as little was yet known of the northern shores of Hudson's Bay, it was hoped that some inlet might be there found communicating with the Northern Sea, and in which, from its more southerly situation, navigation might be continued for a larger portion of the year.

The *Hecla* had answered so well on her former voyages that the *Fury*, a similar ship, was prepared to attend her on the second one. Improvements were made in the internal fittings of the vessels. Charred cork was placed

between the sides of the ship and the internal lining of plank, as a security against the cold, and a simple but well-contrived apparatus for distributing heated air was fixed in each ship.

Captain Parry was directed by his instructions to commence his examination of the coast after he had reached some point which he was sure was on the continent of America. He was to proceed thence to the north and to keep along the coast, minutely exploring every inlet or opening that occurred, in order to ascertain the north-east point of that continent round which it was hoped he might reach the open sea, and thus effect his passage round Icy Cape and through Behring's Straits into the Pacific.

The ships left the Nore on the 8th of May, 1821, and encountered the first iceberg at the entrance of Davis's Strait on the 14th of June. In Hudson's Strait the difficulty of navigation among the ice was found to be much greater than in that of Davis or Baffin's Bay. The tales of old navigators respecting the large stones, the quantities of sand, shells, and weeds, seen here deposited on the floating fields of ice, were found to be correct. "The quantity," says Captain Parry, "in which these substances here occurred was really surprising, and puzzled me extremely to account for the manner in which they found their way upon the floes. Masses of rock, not less than a hundred pounds in weight, are sometimes observed in the middle of a floe, measuring half-a-mile or more each way, and of which the whole surface is more or less covered with smaller stones, sand, and shells."

From the numerous impediments that occurred in the navigation of Hudson's Strait, it was the 2nd of August before the expedition reached the mouth of the channel formed between Southampton Island and the coast towards the north. Captain Parry, who believed this to be the same channel or strait which Captain Middleton, in 1742,

had named the Frozen Strait, determined, notwithstanding its inauspicious name, to endeavour to force a passage through it. If he could succeed in the attempt, it would save him a circuitous voyage of 150 leagues. After struggling onward for some days the ships arrived at an inland basin of water, ten miles in width and about five in breadth, having regular soundings and good anchorage in every part, and perfectly free from ice.

To this magnificent bay, which Captain Parry considers to be "one of the most secure and extensive harbours in the whole world," he gave the name of the Duke of York's Bay. On the 21st of August a swell from the southward convinced our navigators that they had reached Sir Thomas Rowe's Welcome, which divides Southampton Island from the mainland of America. Fogs and a thick fall of snow for some time cut off the distant prospect; when the weather suddenly cleared up, they found themselves almost completely surrounded by land, having entered unawares Repulse Bay, in which not a piece of ice was to be seen that could obstruct them in its thorough examination. It was found to be closed by land, and to be not very unlike the chart drawn of it by Middleton.

The examination of the north-east coast of the American continent, which was the main object of the voyage, may be said to have begun on the 22nd of August, just under the arctic circle. The difficult and laborious task of exploring every inlet and opening that might by possibility afford a passage to the west was executed with a zeal, perseverance, and ability which has never been surpassed. The ships were frequently caught in the ice, and drifted with it to the southward; but the season was already so far advanced as to leave but little time for the prosecution of their researches. Nearly the whole of September was employed in surveying and ascertaining the continuity of land round several deep inlets which are laid down on the charts under the names of Lyon's Inlet, Hoppner's

Inlet, Gore Bay, Ross Bay, etc. The whole extent of coast newly discovered and explored amounted to more than 200 leagues.

This wearisome task was hardly concluded, when the appearance of new ice announced the approach of winter. The thermometer at the same time stood at zero. "The formation of young ice upon the surface of the water is the circumstance which most decidedly begins to put a stop to the navigation of those seas, and warns the seaman that his season of active operation is nearly at an end. It is, indeed, scarcely possible to conceive the degree of hindrance occasioned by this impediment, trifling as it always appears before it is encountered. When the sheet has acquired a thickness of about half an inch, and is of considerable extent, a ship is liable to be stopped by it, unless favoured by a strong and free wind; and even when still retaining her way through the water at the rate of a mile an hour, our course is not always under the control of our helmsman, but depends upon some accidental increase or decrease in the thickness of the sheets of ice with which one bow or the other comes in contact. A ship in this helpless state, her sails in vain expanded to a favourable breeze, her ordinary resources failing, and suddenly arrested in her course upon the element through which she has been accustomed to move without restraint, has often reminded me," says Captain Parry, "of Gulliver tied down by the feeble hands of Lilliputians. Nor are the struggles she makes to effect her release, and the apparent insignificance of the means by which her efforts are opposed, the least just or vexatious part of the resemblance."

A small island near the point where the continent begins to tend to the northward was found to afford good anchorage on the southern side. It was named Winter Island, and here the ships were suffered to be frozen up.

The warmth of the vessels was better provided for than on the preceding expedition, and the same arts were em-

ployed to amuse and occupy the minds of the men. Theatrical entertainments were begun, evenings were devoted to music, and a school was established in each ship, from which the men derived both profit and amusement. But what chiefly contributed to alleviate the tediousness of a long and gloomy winter was a visit from a party of Esquimaux, who were seen approaching the ships across the ice on the 1st of February.

Our voyagers accompanied these poor people to their huts on shore, and were astonished to find that those habitations of men, though within sight of the ships, had escaped their notice, anxiously as the eye lighted on any object that diversified the tiresome sameness of the scene. "Our surprise," says Captain Parry, "may in some measure be imagined at finding an establishment of five huts, with canoes, sledges, dogs, and about sixty men, women, and children, as regularly and to all appearance as permanently fixed as if they had occupied the same spot the whole winter.

"If the first view of the exterior of this little village was such as to create astonishment, that feeling was in no small degree heightened on accepting the invitation soon given us to enter these extraordinary houses, in the construction of which we observed that not a single material was used but snow and ice. After creeping through two low passages, having each its arched doorway, we came to a small circular apartment, of which the roof was a perfect arched dome. From this, three doorways, also arched, and of larger dimensions than the outer ones, led into as many inhabited apartments, one on each side, and the other facing us as we entered. The interior of these presented a scene no less novel than interesting; the women were seated on the beds at the sides of the huts, each having her little fireplace or lamp, with all her domestic utensils about her. The children crept behind their mothers, and the dogs slunk past us in dismay. The con-



AN ESQUIMAUX SNOW-VILLAGE.

Ice-World Adventures.]

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struction of this inhabited part of the hut was similar to that of the outer apartment, being a dome, formed by separate blocks of snow, laid with great regularity and no small art, each being cut into the shape requisite to form a substantial arch from seven to eight feet high in the centre, and having no support whatever but what this principle of building supplies. Sufficient light was admitted into the curious edifices by a circular window of ice, neatly fitted into the roof of each apartment."

The result of an acquaintance of eighteen months with these people was, on the whole, favourable to their character. They seemed to be inoffensive, remarkably honest, and what one would not have expected of savages—very affectionate in domestic life. The women were exempted from that degree of labour and drudgery which usually falls to their lot in uncivilized societies, their duties being confined to making clothes, cooking, and other domestic concerns. The Esquimaux exhibited in some things an extreme deficiency of intellect; few of them could count beyond five, and after an intercourse of eighteen months not one of them could speak a dozen words of English. But in other things they were clever enough. They showed considerable ingenuity in providing for their wants. They were warmly and comfortably clothed, and the seams of their sealskin boots were beautifully worked.

One of the tribe, a woman named Iligliuk, attracted the notice of our voyagers by an obvious superiority of understanding, which, it appears, had also raised her in the esteem of her own countrymen. She was extremely fond of music, sang correctly, with a soft voice, and would listen for hours together to the tunes played on the organ. From her intelligence and readiness in apprehension, she was often employed as an interpreter, and received so many marks of attention from the English, that her vanity at last got the better of her sense, and she was completely

spoiled. But in her excuse, it may be urged that few women have ever been assailed with flattery so hard to be resisted as the favour and respect of our voyagers must have appeared among the Esquimaux.

The airs which she assumed were also counterbalanced by her real services, among which must be mentioned a rude chart which she drew of that part of the coast of America she was familiar with, and the neighbouring islands. Captain Parry having discovered that the Esquimaux were acquainted with the four cardinal points of the compass, marked them on a piece of paper, with the part of the coast where they wintered. Having done this, he says, "we desired her to complete the rest, and to do it *mikkee* (small); when with a countenance of the most grave attention and peculiar intelligence, she drew the coast of the continent beyond her own country, as lying nearly north from Winter Island. The most important part still remained, and it would have amused an unconcerned looker on to have observed the anxiety and suspense depicted in the countenances of our part of the group till this was accomplished, for never were the tracings of a pencil watched with more eager solicitude. Our surprise and satisfaction may therefore, in some degree, be imagined, when without taking the pencil from the paper Iligliuk brought the continental coast short round to the westward, so as to come within three or four days' journey of Repulse Bay. The country thus situated upon the shores of the western or polar sea is called Akkoolee, and is inhabited by numerous Esquimaux, and half-way between that coast and Repulse Bay Iligliuk drew a lake of considerable size, having small streams running from it to the sea on each side. To this lake her countrymen are annually in the habit of resorting during summer, and catch there large fish of the salmon kind, while on the banks are found abundance of reindeer. To the westward of Akkoolee, as far as they can see from the hills, which she

described as high ones, nothing can be seen but one wide extended sea. Being desirous of seeing whether Iligliuk would interfere with Wager River, as we knew it to exist, I requested her to continue the coast line to the southward of Akkoolee, when she immediately dropped the pencil, and said she knew no more about it."

The information thus received was confirmed by other Esquimaux, who were requested to draw charts of the countries within their own knowledge. Their delineations of the coast, made without any concert among themselves, agreed in a surprising manner. Captain Parry and his officers now recollected that from a high hill at the head of Lyon's Inlet a brightness in the western sky resembling what seamen call the ice-blink had been visible, and that from another height a great deal of water, with islands and capes, had been seen to the west-north-west. The distance from the head of Repulse Bay to the northern sea was stated by the Esquimaux to be three *senicks*, or *sleeeps*. On one occasion, a party, who had travelled northward from the ships a journey of forty sleeps, were overtaken in one day's sailing.

Spring made its appearance at Winter Island more tardily if possible, than it had done at Melville Island, in the former voyage, yet the former place was situated eight degrees and a half farther to the south. Nine months had already been spent here in the ice, when at length, on the 2nd of July, after great exertion, the ships effected their escape; but the current setting to the southward, down Fox's Channel, which our voyagers now proceeded to examine, carried with it such a quantity of drift-ice, as involved them in continual embarrassment and danger. The ships every now and then narrowly escaped being crushed by the icebergs or lifted up and upset by floes passing under them.

By unremitting perseverance they reached, by the 12th of July, a small opening in the land, in latitude $67^{\circ} 18'$, out

of which a current was observed to issue. As this offered a security against ice, Captain Parry anchored as near to it as possible, and a party went on shore to explore the country. Unused as they had been for several months to the charms of verdure and picturesque scenery, their delight was indescribable when, after rambling a little distance up the banks of a lively stream, they arrived at a series of cascades descending from crag to crag, and beyond it found the river increased in width and flowing with a smooth, unruffled surface among romantic hills, while the richness of vegetation on its banks seemed nearly miraculous in this climate.

Soon after the ships arrived at the islands of Amitioke and Ooglit, laid down in the chart of the Esquimaux, where they had been informed that they should meet with vast numbers of the walrus or sea-horse. The report of the Esquimaux was found to be correct; they fell in with such a multitude of those animals as, in Captain Parry's opinion, are probably not to be found in any other part of the world. They were lying in large herds upon loose pieces of drift-ice, from twelve to thirty in a group.

Our voyagers now approached, with trepidation and anxiety, the place where the Esquimaux, whose statement had hitherto proved to be correct, had marked a strait conducting to the western sea. The passage was soon recognised, and final success was now confidently expected: but what was the grief and mortification they experienced when they found an unbroken barrier of ice extended completely across the western mouth of the strait, from the northern to the southern land! As it was now the middle of July, and the ice was evidently not a new accumulation, but bore marks of having been long attached to the land on every side, the disappointment was complete, and no hope remained of the removal of the obstacle in that season.

After struggling for sixty-five days to force a passage to

the westward, the ships returned to the island of Igloodik, where they were frozen in on the 30th of October. The canal cut through the ice to bring the ships to their winter quarters was above 4300 feet in length, the thickness of the ice amounted in some places to several feet, and during this severe labour the cold was intense, the thermometer being at one time nine degrees below zero. Thus were our navigators reduced to the necessity of spending a second winter in the ice, the pain being increased by the disappointment they had just endured. They had sanguinely calculated on a passage through the polar sea and Behring's Strait to comfortable winter quarters in the South Sea.

The same precautions were taken as in the preceding winter to keep up the spirits and preserve the health of the men, but dramatic amusements had now lost their novelty, and though no discontent existed, there was less gaiety than before. They had learned, however, from the Esquimaux to add considerably to their comfort by building a high snow wall round the ships, enclosing a large square like a farm-yard. In this way the snowdrift was kept out, and a place for exercise was formed sheltered from every wind. By this measure also the heat of the ships was increased.

But the presence of a numerous tribe of Esquimaux chiefly contributed to enliven the dulness of the scene. The officers made excursions on both sides of the strait, which Captain Parry named the Strait of the *Fury* and *Hecla*. In its narrowest part it is two miles across, forming a canal of nearly equal width, and about a mile in length. The land on the south or continental side is a great peninsula, named by Captain Parry Melville Peninsula. It is a rugged, mountainous country, intersected by chains of lakes, and on that account extremely difficult to penetrate. Captain Lyon made an attempt to cross it, but was obliged to desist from the undertaking after having

proceeded only seven miles. The land to the north was named Cockburn Island; the Esquimaux informed our voyagers that it was surrounded by water, but they were unable to say whether the channel round it was navigable or not. Some of the officers made an excursion of about sixty miles to the western shore of Cockburn Island, whence they discovered the polar sea lying open before hem. Round the entrance of the strait, however, the ice was piled up in such vast mountains as left little reason to conclude that a navigable passage could ever be found this way.

The 1st of August, 1823, arrived, and the ships were still shut up within a barrier of ice; but Captain Parry, impatient of confinement, determined to do his best to get free, though it appeared necessary for that purpose to saw a canal four or five miles in length. The laborious process was begun, when the ice breaking up more completely, the ships once more reached the open water on the 12th of August.

It was not doubted that the Strait of the *Fury* and *Hecla* communicated with the polar sea; and the obstacle which blocked it up, however formidable and even durable it might appear, was evidently of an adventitious character. It was physically possible that a mild season or accidental causes might disperse the ice and open a free passage for the ships. Captain Parry, having reached the threshold which conducted to the fulfilment of his hopes, was unwilling to turn back while there remained the faintest prospect of success. He contemplated, therefore, taking the stores out of the *Hecla*, and sending that ship home, while he himself remained to continue his efforts for another season.

This bold scheme, which might have led to disastrous consequences, calculated to stain the honour of the whole expedition, was happily laid aside from peculiar circumstances. The scurvy had made its appearance in the ships, and the dread of this formidable disease, with the argu-

ments of Captain Lyon, induced Captain Parry to renounce his desperate attempt, and make the best of his way home.

They reached Lerwick, in the Shetland Islands, on the 10th of October, seven and twenty months having elapsed since they last saw traces of civilized man. The officers and crew returned in high health, only five men out of 118 having died in the course of this laborious voyage, during which they had spent two long winters in the ice, with the mean temperature considerably below zero.

Though this second voyage of Captain Parry failed in its main object of finding a passage into the polar sea, yet it cannot be denied that it was productive of much geographical information. When the difficulties to be contended with are taken into account, this voyage, compared with those of former navigators to those frozen seas, will appear eminently successful. Sufficient light had now been thrown on the geography of the north-west to satisfy the most sceptical that the continent of America did not, in all probability, extend much farther north than latitude 70° , and that the Atlantic communicated with the polar sea by numerous channels, more or less obstructed with ice, according to the direction of currents and other circumstances.

Hopes were entertained that the ice which Captain Parry had seen in Regent's Inlet, was one of those accidental accumulations which change of wind might disperse; and that a passage into the polar sea might be expected through that inlet: which, running towards the north-west, is obliquely opened to the currents running eastward along the northern shores of America. The *Hecla* and *Fury* were accordingly again fitted out, and placed under the command of Captain Parry and Lieutenant Hoppner.

In this, the least successful of Captain Parry's voyages, he was thwarted by that run of ill-luck to which navigators are always liable. His progress through Baffin's Bay was so much impeded by broken ice, that with much difficulty

he reached Port Bowen, on the eastern shore of Regent's Inlet, before the season when navigation in that climate would be wholly impracticable.

The winter spent at Port Bowen resembled those already passed at Melville Island and Igloolik. The men were occupied in a school and amused with masquerades. Experience had taught our navigators to provide more effectually for warmth and comfort. By placing the stoves in the very bottom of the hold, and by other arrangements, they were enabled to keep up in the ships a uniform temperature of from 50° to 63° ; and the general health of the seamen suffered less derangement than on any former occasion.

On the 20th of July, 1825, the breaking up of the ice enabled them to commence active operations; but perhaps they would have lost nothing by a little prudent delay. They endeavoured to proceed along the western shore of Prince Regent's Inlet, but the immense masses of ice which floated along the middle of the strait gradually approached the ships and at length forced them on shore. The *Fury* was so much injured that she could hardly be kept afloat with four pumps at work and the united exertions of officers and men. An attempt was made to repair her by heaving her down on the ice; but a gale of wind came on, brought down the ice in large quantities, drove the *Fury* a second time on shore, and injured her so irreparably that it was deemed necessary to abandon her with all the stores.

The officers and men embarked in the *Hecla*, and the expedition returned home. Captain Parry did not penetrate so far to the south in Regent's Inlet as he had done in his first voyage.

Government was so discouraged at this finale to a long list of failures to effect the discovery of the North-west Passage, that notwithstanding the brilliant geographical discoveries they had made, they resolved to discontinue their efforts. They further withdrew the promised reward of

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Ice World Adventures. SIR JOHN FRANKLIN.

£20,000 to the vessel which should first accomplish the passage.

In 1844, however, a new impetus was given to arctic discovery by the return of Captain Sir James Clark Ross from his brilliant antarctic expedition.

In 1845 it was resolved by Government to make a further attempt to discover a North-west Passage from the Atlantic to the Pacific. The *Erebus* and the *Terror* were fitted out for the service, and placed under the command of Sir John Franklin.

"It was at one time intended that Fitzjames, whose genius and energy marked him for no common officer, should command the expedition; but just at this time Sir John Franklin was heard to say that he considered the post to be his birthright, as the senior arctic explorer in England. He had recently returned from his post as Governor of Van Diemen's land; his sensitive and generous spirit chafed under the unmerited treatment he had received from the then Secretary for the Colonies, and, sick of civil employment, he naturally turned again to his profession, as a better field for the ability and devotion he had wasted on a thankless office. Sanguine of success, forgetful of past suffering, he claimed the right to command the latest, as he had led the earliest, of modern arctic expeditions."

"Directly it was known that he would go if asked, the Admiralty were, of course, only too glad to avail themselves of the experience of such a man; but Lord Haddington, with that kindness which ever distinguished him, suggested that Franklin might well rest at home on his laurels. 'I might find a good excuse for not letting you go, Sir John,' said the peer, 'in the tell-tale record which informs me that you are sixty years of age.' 'No, no, my lord,' was Franklin's rejoinder; 'I am only fifty-nine.' Before such earnestness all scruples ceased; the offer was officially made and accepted; to Sir John Franklin was confided the arc-

tic expedition, consisting of H.M.S. *Erebus*, in which he hoisted his pennant, and H.M.S. *Terror*, commanded by Captain Crozier, who had recently accompanied Sir James Ross in his wonderful voyage to the antarctic seas."

The *Erebus*, of 370 tons measurement, had been originally intended for a bomb-vessel, and was therefore strongly framed. It had been strengthened in 1839 for Sir James C. Ross's antarctic voyage, from which it returned in 1843. The *Terror*, of 340 tons, had also all the necessary qualities of strength. It had, under the command of Sir George Back, visited Repulse Bay in 1836-7, and had sailed in 1839 for the antarctic seas under the command of Captain Crozier, the second officer of Sir James Ross's expedition.

On board the *Erebus* were Sir John Franklin, with James Fitzjames as commander, and Graham Gore, H. P. D. Le Vesconte, and James W. Fairholme as lieutenants. The captain of the *Terror* was Captain R. M. Crozier. The crews of the two ships numbered together about a hundred and thirty souls.

The best plans that former experience could suggest for ventilating and warming the ships during the winter were adopted. Full supplies of every requisite for arctic navigation were also provided, including an ample stock of warm bedding, clothes, and provisions, with a proportion of preserved meats and pemmican.

Sir John Franklin was directed by the Admiralty instructions to proceed to Lancaster Sound, and passing through it to push on to the westward in the latitude of $74\frac{1}{4}^{\circ}$, without loss of time, or stopping to examine any openings to the northward, until he reached the longitude of Cape Walker, which is situated in about 98° W. He was to use every effort to penetrate to the southward and westward of that point, and to pursue as direct a course for Behring's Straits as circumstances might permit.

The expedition sailed from England on the 19th of May, 1845. Early in July the explorers reached Whalefish

Islands, near Disco, on the Greenland coast of Davis's Strait, where, having found a convenient port, the transport which accompanied them was cleared and sent home, bearing the last letters ever received from the officers and crew. The whole party were in high spirits and upon the best of terms with each other, as may be seen from the following extract from a letter by Lieutenant Fairholme, of the *Erebus* :—

“ We have anchored in a narrow channel between two of the islands, protected on all sides by land, and in as convenient a place for our purpose as could possibly be found. Here we are, with the transport lashed alongside, transferring most actively all her stores to the two ships. I hope that this operation will be completed by to-morrow night, in which case Wednesday will be devoted to swinging the ships for local attraction, and I suppose Thursday will see us under way, with our heads to the northward. We have had the observatory up here, on a small rock on which Parry formerly observed, and have got a very satisfactory set of magnetic and other observations.

“ Of our prospects we know little more than when we left England, but look forward with anxiety to our reaching 72°, where it seems we are likely to meet the first obstruction if any exists. On board we are as comfortable as it is possible to be. I need hardly tell you how much we are all delighted with our captain. He has, I am sure, won, not only the respect, but the love of every person on board by his amiable manner and kindness to all; and his influence is always employed for some good purpose, both among the officers and men. He has been most successful in his selection of officers, and a more agreeable set could hardly be found. Sir John is in much better health than when we left England, and really looks ten years younger. He takes an active part in everything that goes on, and his long experience in such services as this makes him a most valuable adviser.

"July 10th. The transport is just reported clear, so I hope that we may be able to swing the ships to-morrow and get away on Saturday. We are very much crowded; in fact, not an inch of stowage has been lost, and the decks are still covered with casks, etc. Our supply of coals has encroached seriously on the ship's stowage; but as we consume both this and provisions as we go, the evil will be continually lessening."

Letters were also received, at the same time with the above, from many of the other officers. They were all written in the same buoyant and hopeful spirit. An extract from a letter from Sir John Franklin himself to Lieutenant-colonel Sabine deserves to be quoted, as expressing his own opinion of his resources. The letter is dated from Whalefish Islands on the 9th of July, 1845. After noticing that the *Erebus* and *Terror* had on board provisions, fuel, clothing, and stores for three years' complete from that date, Sir John adds, "I hope my dear wife and daughter will not be over-anxious if we should not return by the time they have fixed upon, and I must beg of you to give them the benefit of your advice and experience when that time arrives, for you know well that, without success in our object, even after the second winter we should wish to try some other channel, if the state of our provisions and the health of the crews justify it."

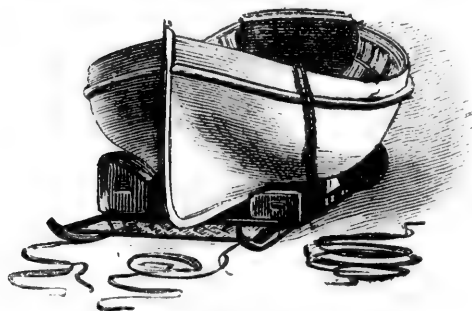
On the 12th of July Sir John Franklin wrote his last official letter to the Admiralty. He said that he hoped to sail that night, and concluded by remarking, "It is unnecessary to assure their lordships of the energy and zeal of Captain Crozier, Commander Fitzjames, and of the officers and men with whom I have the happiness of being employed on this service."

Most likely the two ships set sail that night as was intended. They were seen on the 26th of the month in latitude $74^{\circ} 48' N.$, longitude $67^{\circ} 13' W.$, moored to an iceberg, waiting for a favourable opportunity of entering or

rounding the "middle ice," and crossing to Lancaster Sound, distant in a direct westerly line from their position about 220 geographical miles. On that day a boat from the discovery ships, manned by seven officers, one of whom was Commander Fitzjames, boarded the *Prince of Wales*, a whaling vessel commanded by Captain Dannett. They were all in high spirits, and invited Captain Dannett to dine with Sir John Franklin on the following day. He would have done so, and would probably have been the bearer of letters for England, had not a favourable breeze sprung up, which induced the whaler to speed on his way. The ice was then heavy but loose, and the officers expressed good hopes of accomplishing their enterprise. Captain Dannett had fine weather during the three following weeks, and thought that the expedition must have made good progress.

This was Franklin's farewell to the outer world. He and his ships were never again seen.

* * * * *



AN ICE-BOAT ON A SLEDGE.

CHAPTER XV.

IN SEARCH OF FRANKLIN.

ALARM FOR FRANKLIN'S SAFETY—VOLUNTEER AID—SIR JAMES C. ROSS'S EXPEDITION—FROZEN FAST—SIR JOHN RICHARDSON'S EXPEDITION—BURYING STORES—ARRIVAL AT FORT CONFIDENCE—RAE'S SUMMER EXPEDITION OF 1849—CAPTAIN KELLETT'S EXPEDITION—STATE OF PUBLIC FEELING—FIRST TRACES OF THE MISSING SHIPS—FRANKLIN'S FIRST WINTER QUARTERS—THE THREE GRAVES—MR. WILLIAM KENNEDY'S EXPEDITION IN 1851—HOW TO BUILD SNOW HUTS—SIR EDWARD WELCHER'S EXPEDITION OF 1852—VARIOUS SLEDGE EXPEDITIONS—ABANDONING THE *RESOLUTE* AND *INTREPID*—THE RETURN TO ENGLAND—THE *RESOLUTE* ADRIFT—AN AMERICAN COMPLIMENT—DR. RAE'S STARTLING INFORMATION.

A YEAR and a half passed by, and no news was heard of Franklin. In January, 1847, Sir John Ross addressed a letter to the Admiralty, in which he stated his conviction that the discovery ships were frozen up at the western end of Melville Island, from whence their return would be forever prevented by the accumulation of ice behind them, and volunteered his services to carry relief to the crews. Sir John also laid statements of his apprehensions before the Royal and Geographical Societies. Public attention was roused, several writers in the newspapers and other periodicals published their sentiments on the subject, and a variety of plans of relief were suggested, and many volunteers came forward to execute them.

After deliberately weighing all the suggestions that were made, the Admiralty determined that, if no intelligence of the missing ships arrived by the close of autumn, 1847, they would send out three several searching expeditions—one to Lancaster Sound, another down the Mackenzie River, and the third to Behring's Straits.

The first and most important of the three had for its object to trace the route supposed to have been pursued by

Sir John Franklin, and by searching diligently for any signal-posts he might have erected, to trace him out, and carry relief to his exhausted crews. Sir James Clarke Ross was appointed to the command of this expedition, consisting of the *Enterprise* and *Investigator*. The Mackenzie River expedition was entrusted to Sir John Richardson. The Behring's Straits expedition was composed of the *Herald*, Captain Kellet, then employed in surveying the coast of America, and the *Plover*, Commander Moore.

The first of these expeditions was unfortunately baffled by those natural causes which so often in arctic regions defeat the best laid plans. Sir James Ross was not able to cross the middle ice of Baffin's Bay till the 20th of July. He did not reach Cape York, at the entrance of Regent's Inlet, till the 1st of September; and here he had the mortification of finding that impenetrable barriers of ice prevented his approaching the entrance of Wellington Channel to the north or Cape Rennell to the west.

Ross put into Port Leopold on the 11th of September, and on the following day both his vessels were fast shut in by the main pack of ice closing with the land. He spent the winter and spring in all practicable measures for the discovery and relief of Franklin. A house was built at Port Leopold, and stored with provisions for twelve months, in case of his coming that way after the ships were gone.

The open season of 1849 was late. The vessels were not released till the 28th of August, and three days later the ice closed round them, and no exertions could get them free. They remained fast till they drifted out of Lancaster Sound. When they were once more at liberty, it was near the close of September, and winter had set in with rigour. Ross had done his utmost to contend with adverse circumstances: he had now no resource but to return home, thankful to a Providence which had so mercifully preserved him when all human effort was unavailing. His return to England without news of the lost expedition

naturally created much disappointment, and some unreasonable dissatisfaction was expressed. But Sir James Ross, it is certain, had done everything that could be done in the circumstances.

We turn now to the second expedition.

Great interest was taken in Richardson's expedition, and he received numerous applications from volunteers desirous of joining him. Mr. Rae was associated with Richardson. They started from Liverpool for New York on the 25th of March, 1848, taking with them necessary baggage to the amount of 4000 pounds.

On the 10th of April they landed at New York, and, moving with all practicable rapidity, arrived at Cumberland House, 2850 miles from New York, on the 14th of June. They found their party, who had left England the previous year, a fortnight in advance; it had been joined by Mr. Bell, chief trader of the Hudson's Bay Company, and by sixteen of the company's voyageurs.

The journey down the Mackenzie was favourable. They reached Point Separation on the last day of July, and buried there a case of pemmican with memoranda, for the *Plover's* boat-party. To indicate the spot to their friends, but conceal it from the natives, a fire was lit over the pit. As this signal had been agreed on, the deposit was readily found by Pullen and his men when they arrived, thirteen days after, in the *Plover's* boats.

Leaving the mouth of the Mackenzie, Richardson's party turned eastwards. On the 11th of August they passed Cape Bathurst, and soon after rounded Cape Parry. The navigation now became more difficult, the boats having to make their way through crowded floes of ice. As they drew near Cape Krusenstern, the sea, as far as the eye could reach, was one dense close pack, with not a lane of water perceptible. On the night of the 26th of August a severe frost covered the sea and ponds with young ice, and glued the floes immovably together. Progress with the

boats could now only be accomplished by dragging them over the floes when the surface was sufficiently smooth, by cutting through tongues of ice, and by carrying them bodily over flats and points of land. One morning three hours of severe labour only advanced them a hundred yards. When about a dozen miles from Cape Krusenstern, one boat with her cargo had to be left on a rocky projection.

From the cape itself nothing was to be seen but ice in firmly compacted floes, and the sorrowful conclusion was forced on Sir John Richardson that his sea-voyage was at an end. East of Cape Parry, says he, only six weeks of summer can be reckoned on. All struggled forward, however, to Cape Hearne, and as from this point the sea was covered with floes, and new ice formed rapidly, the abandonment of the other boats became inevitable.

Preparations were now set about for a march to Fort Confidence, at the northern extremity of Great Bear Lake. Packages were now made up, each man taking with him provisions for thirteen days. Six pieces of pemmican and a boat magazine of powder were buried under a cliff. The tents were left standing near the boats, and a few useful articles, as hatchets and cooking utensils, were deposited in them for the use of the Esquimaux.

On the 3rd of September, after solemn prayers, in which all appeared to join with deep earnestness, they started. At the end of the day's march some scraps of driftwood were collected for a fire to cook their supper. Then they selected the best sleeping places they could find among blocks of basalt, and passed, though the weather continued cold, "a pretty comfortable night."

In this way Sir John and his men journeyed on for twelve days, reaching Fort Confidence on the 15th of September. "We were happy," says our explorer, "to find Mr. Bell and his people well, and the building much further advanced than we had expected. He had built an ample

store-house, two houses for the men, and a dwelling-house for the officers, consisting of a hall, three sleeping apartments, and store-closet. Mr. Bell and Mr. Rae quartered themselves with Bruce in the store-room, and I took possession of my sleeping-room, which was put temporarily in order. I could there enjoy the luxury of a fire while I was preparing my despatches for the Admiralty and writing my domestic letters."

The main business of the expedition was now at an end. The men were sent home; and on the 7th of May, 1849, Richardson and Bell commenced their journey southwards, leaving Rae, as the best qualified, to make another effort to reach Wollaston Land from Cape Krusenstern in the summer with a boat's crew of six men. Richardson landed at Liverpool on the 6th of November, 1849; he had been absent nineteen months.

Rae's summer expedition of 1849 turned out a failure. On the 30th of July he arrived at Cape Krusenstern from Fort Confidence, and found the channel so choked with ice that it was impossible to get a boat through it. He waited at the cape, watching the channel for an opening till the 23rd of August, when, the sea being completely closed by compacted floes, he reluctantly returned by the Coppermine River to his winter quarters. The boats left the previous year had been much damaged by the Esquimaux in order to get at the copperwork, but the tents were uninjured, and the *cache* of pemmican and ammunition remained untouched.

And now to speak of the third expedition. Whilst Rae was watching with anxious eye the ice-choked sea from Cape Krusenstern, Captain Kellett, in the *Herald*, was discovering land in the polar sea far north of Behring's Strait, and Pullen, in the boats of the *Placer*, was navigating the coast from Icy Cape to the Mackenzie. But nothing, alas! was heard or seen of our missing explorers.

All this was discouraging enough, but the Admiralty resolved that the search should be renewed, and on a more extended scale. And with their endeavours the sympathy of the whole country went hand in hand. "The public mind," said a writer in the *Quarterly Review* at the time, "is made up that the fate of the missing ships shall be determined, if human energy can determine it; and the resolve is as wise as generous. To our navy, under God, we owe our greatness and safety; and in sending forth our gallant seamen on hazardous enterprises, we are bound by every possible obligation to inspire them with a full confidence that they are under the eye and guardianship of their country, and that its resources will be exerted to the utmost in their behalf. The pecuniary cost of the search is not to be regarded in comparison with its object; and it is better for a thousand lives to be imperilled in the discharge of duty than for one to be sacrificed through neglect."

It would exhaust the reader's patience were we to follow the fortunes of all the expeditions that were sent out. A brief statement of them will be found in the chronological account of the various arctic voyages, given in another part of this work. We hasten on, and in a paragraph will pass over the weary months of anxiety endured by the public whilst diligent search was made over the polar seas.

The first traces of the missing ships were discovered by Captain Ommanney in the *Assistance*, at Cape Riley, on the 23rd of August. He found sundry pieces of rag, bone, and broken bottles, and also the mark of five tent places. This cape is situated at the eastern entrance of Wellington Channel; about three miles west of it rises the bold abrupt coast of Beechey Island; and between the shore of this isle and the mainland lies a bay to which extraordinary interest is now attached. On its coast were observed numerous sledge-tracks, and at Cape Spencer,

about ten miles from Cape Riley, up Wellington Channel, the party discovered the ground place of a tent, the floor being neatly paved with small smooth stones.

Around the tent a number of birds' bones, as well as remnants of meat-canisters, induced the explorers to imagine that it had been inhabited for some time as a shooting station, and a look-out place, for which latter purpose it was admirably chosen, commanding as it did a good view of Barrow's Strait and Wellington Channel.

Some sledge tracks led northward for about twenty miles, but the trail ceased south of Cape Bowden, and an empty bottle and a piece of newspaper were the last things found.

The results of examining Beechey Island we must give in the words of Lieutenant Osborn: "A long point of land," he says, "slopes gradually from the southern bluffs of this now deeply interesting island until it almost connects itself with the land of North Devon, forming on either side of it two good and commodious bays. On this slope a multitude of preserved meat tins were strewed about; and near them, and on the ridge of the slope, a carefully constructed cairn was discovered. It consisted of layers of fitted tins, filled with gravel, and placed to form a firm and solid foundation. Beyond this, and along the northern shore of Beechey Island, the following traces were then quickly discovered: the embankment of a house, with carpenters' and armourers' working places, washing-tubs, coal-bags, pieces of old clothing, rope; and lastly, the graves of three of the crew of the *Erebus* and *Terror*—bearing date of the winter of 1845-46. We therefore now had ascertained the first winter quarters of Sir John Franklin."

A very full description of the spot is given by Edwin de Haven, commander of an American expedition fitted out by Mr. Grinnell,—for the Americans also were diligent in searching for our lost countrymen.

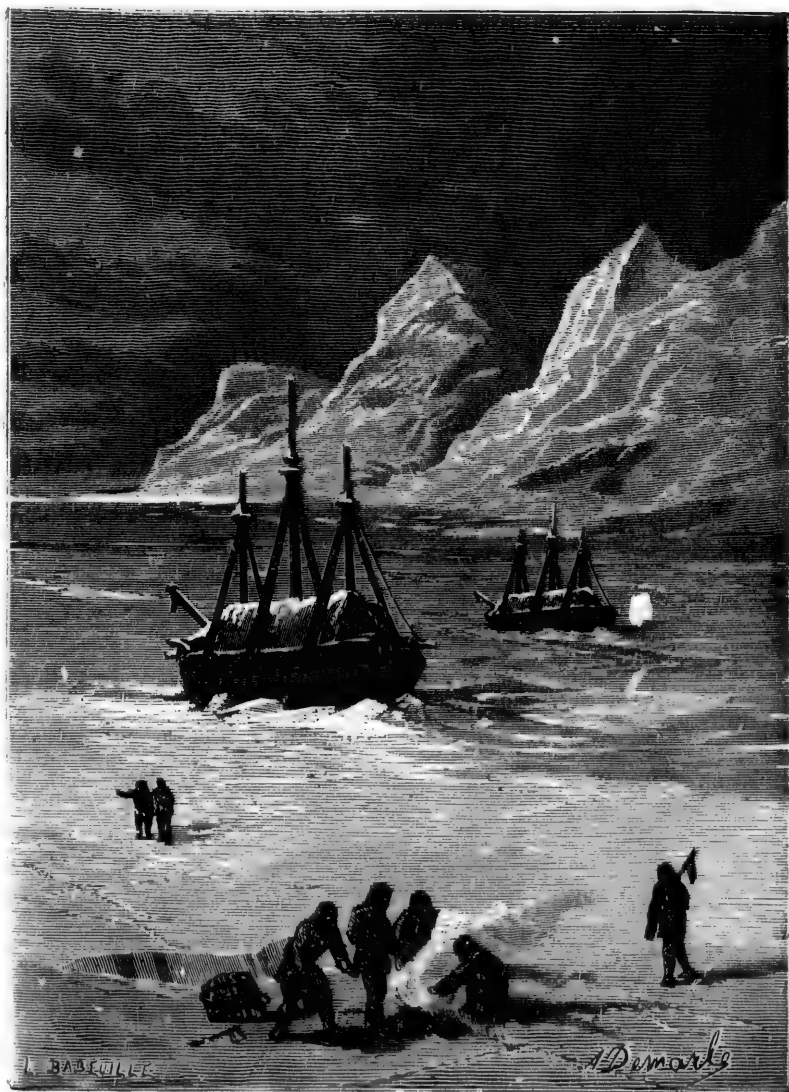
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THE "EREBUS" AND "TERROR" IN WINTER QUARTERS.
Ice-World Adventures.

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"On the 22nd of August, 1850," he tells us, "we found Barrow Strait to the westward one mass of heavy and closely packed ice, extending close to the coast of North Somerset. At noon on the 25th, off Cape Riley, landed to examine a cairn erected in a conspicuous position. It was a record of H.M.S. *Assistance*, erected the day before. We also found some fragments of painted wood and preserved meat tins, and connected therewith the object of our search. These were clear indications of its being the camping ground of a civilized traveller or hunting party.

"On the 26th, with a tight breeze, we passed Beechey Island, and ran through a narrow bed to the north. Immediately above Point Innis the ice of Wellington Channel was fixed and unbroken from shore to shore, and had every indication of having so remained for at least three years. It was generally about eight feet thick, and the sharp angular hummocks, peculiar to recently formed ice, had been rounded down to gentle hillocks by the action of the weather for several seasons. Farther progress to the north was out of the question. To the west, however, along the edge of the fixed ice, a lead presented itself with a freshening wind from south-east. We ran into it, but half way across the channel our headway was arrested by the closing ice. A few miles beyond this, two of the English vessels (one a steamer) were dangerously beset. I deemed it prudent to return to Point Innis, under the lee of which the vessels might hold on in security until a favourable change should take place.

"The weather becoming more favourable, we retraced our steps as far as Beechey Island, in order to make more minute investigations in that quarter. The vessels were made fast to the land ice, on the north-west side of the island, on the 27th of August. The schooner *Telus*, Captain Sir John Ross, R.N., and the squadron under Captain Penny, joined us at this point. Consulting with these gentlemen, joint search was instituted along the

adjacent shores, in all directions. In a short time one of Captain Penny's men returned, and reported that he had discovered several graves. On examination his report proved to be correct. Three well-made graves were found with painted head-boards of wood, the inscriptions on which were as follows :—

I.

"Sacred to the Memory of WM. BRAINE, R.M., Her Majesty's ship *Erebus*, died April 3, 1846, aged 32 years. 'Choose ye this day whom ye will serve.'—Josh. xxiv. 15.

II.

"Sacred to the Memory of JOHN HARTWELL, A.B., Her Majesty's ship *Erebus*, died January 4th, 1846, aged 25 years. 'Thus saith the Lord of Hosts, Consider your ways.'—Hag. i. 7.

III.

"Sacred to the Memory of JOHN TORRINGTON, who departed this life, Jan. 1, A.D., 1846, on board Her Majesty's ship *Terror*, aged 20."

"Near the graves were also other unmistakable evidences of the missing expedition having passed its first winter here. They consisted of innumerable scraps of old rope and canvas, the blocks on which stood the armourer's anvil, with many pieces of coal and iron around it, the outlines of several tents or houses, supposed to have been one side of the observatory, and erections for sheltering the mechanics. The chips and shavings of the carpenter still remained. A short distance from this was found a large number of preserved meat tins, all having the same label as those found at Point Innis. From all these indications the inference could not fail to be arrived at, that the *Erebus* and *Terror* had made this their first winter quarters after leaving England. The spot was admirably chosen for the security of the ships, as well as for their early escape the following season. Everything, too, went to prove that, up to this point the expedition was well organised, and that the vessels had not received any material injury. Early on

the morning of the 28th of August, Her Britannic Majesty's ship *Resolute*, Captain Austin, with her steam tender, arrived from the eastward. Renewed efforts were made by all parties to discover some written notice which Sir John Franklin ought to have deposited at this place in some conspicuous position. A cairn of stones, erected on the highest part of the island, was discovered. A most thorough search with crow and picks was instituted at and about it, in the presence of all hands. This search was continued for several days, but not the slightest vestige of a record could be found. The graves were not opened nor disturbed.

"After some days we reached Griffith Island, passing the southern part of which the English searching-vessels were descried made fast to the ice a few miles distant. The western lead closing at this point, we were compelled to make fast also. The ice here was so very unfavourable for making farther progress, and the season was so far advanced, that it became necessary to take future movements into serious consideration. A consultation was had with Mr. Griffins, and after reviewing carefully all the circumstances attending our position, it was judged that we had not gained a point from which we could commence operations in the season of 1851 with decided advantages. Therefore, agreeably to my instructions, I felt it imperative to extricate the vessels from the ice, and return to the United States."

On the 29th the spot was visited by Osborn. "It needed not," he says, "a dark wintry sky or a gloomy day to throw a sombre shade around my feelings, as I landed on Beechey Island, and looked down upon the bay, on whose bosom had ridden Her Majesty's ships *Erebus* and *Terror*. There was a sickening anxiety of the heart as one involuntarily clutched at every relic they of Franklin's expedition had left behind, in the vain hope that some clue as to the route they had taken hence might be found.

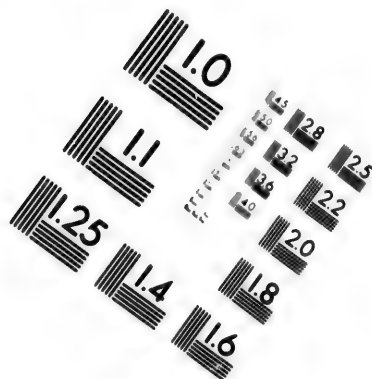
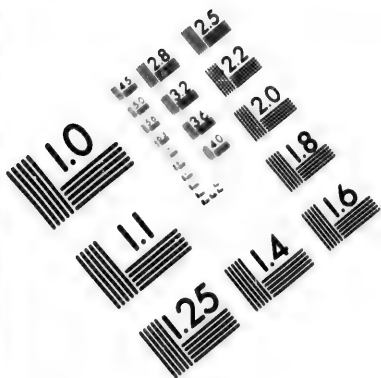
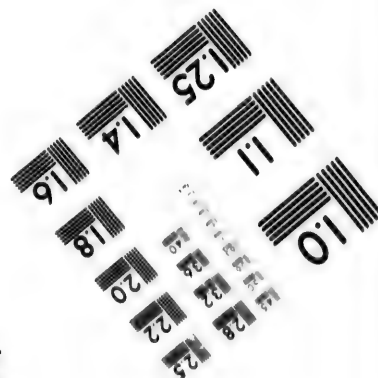
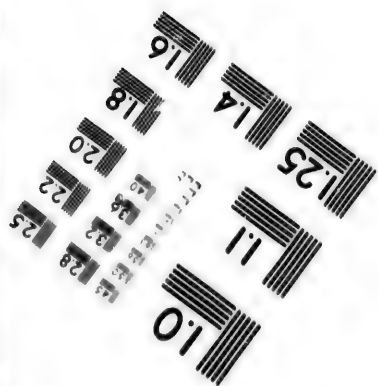
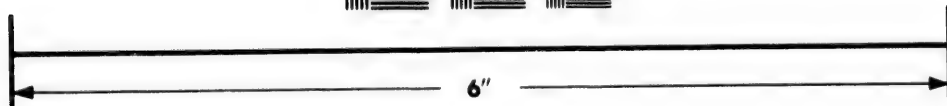
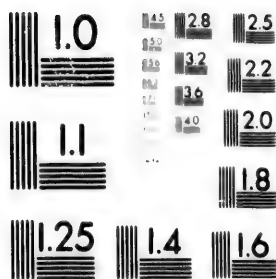


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"From the cairn to the long and curving beach, from the frozen surface of the bay to the tops of the distant cliffs, the eye involuntarily but keenly sought for something more than had yet been found.

"But, no : as sharp eyes, as anxious hearts, had already been there; and I was obliged to be content with the information, which my observation proved to be true, that the search had been close and careful, but that nothing was to be found in the shape of written record.

"On the eastern slope of the ridge of Beechey Island a remnant of a garden (for remnant it now only was, having been dug up in the search) told an interesting tale: its neatly-shaped oval outline, the border carefully formed of moss, lichen, poppies, and anemones, transplanted from some more genial part of this dreary region, contrived still to show symptoms of vitality; but the seeds which doubtless they had sown in the garden had decayed away. A few hundred yards lower down a mound, the foundation of a storehouse, was next to be seen.

"It consisted of an exterior and interior embankment, into which, from the remnants left, we saw that oak and elm scantling had been stuck as props to the roofing. In one part of the enclosed space some coal sacks were found, and in another part numerous wood-shavings proved the ship's artificers to have been working here. The generally received opinion as to the object of this storehouse was that Franklin had constructed it to shelter a portion of those superabundant provisions and stores with which it was well known his decks were lumbered on leaving Whale Fish Island.

"Nearer to the beach a heap of cinders and scraps of iron showed the armourer's working-place; and along an old watercourse, now chained up by frost, several tubs, constructed of the ends of salt-meat casks, left no doubt as to the washing-places of the men of Franklin's squadron. Happening to cross a level piece of ground which as yet

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IN MEMORY OF LIEUTENANT BELLOT.

Ice-World Adventures.

[Page 227.]




ONTAIRE
ANGLAISES
INS ARCTIQUES
JOHN FRANKLIN
ROBES
MARGANT LE PHENIX
DANS LES GLACES
EN FRANCE



JOSEPH R. BELLOT.

Ice-World Adventures.]

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no one had lighted upon, I was pleased to see a pair of Cashmere gloves laid out to dry, with two small stones on the palms to prevent their blowing away; they had been there since 1846. I took them up carefully, as melancholy mementoes of my missing friends. In another spot a flannel was discovered; and this, together with other things lying about, would, in my ignorance of wintering in the arctic regions, have led me to suppose that there was considerable haste displayed in the departure of the *Erebus* and *Terror* from this spot, had not subsequent experience of the haste with which an arctic expedition always quits its winter prison convinced me of these relics being nothing more than the ordinary traces of a winter station; and this opinion was fully borne out by those officers who had in the previous year wintered at Port Leopold, one of them asserting very truly that people left winter quarters too well pleased to escape to care much for a handful of shavings, an old coal-bag, or a washing-tub."

In 1850 the search had been prosecuted on the side of Baffin's Bay by no fewer than eleven vessels. In the following year it was maintained by only one. This was the *Prince Albert*, under the command of Mr. William Kennedy, who afterwards published a short and sensible narrative of his voyage. M. Bellot, a lieutenant in the French navy, joined as a volunteer, and his generous ardour and lively spirits contributed greatly to the efficiency of the expedition.*

Kennedy wintered at Batty Bay, on the west side of Regent's Inlet. In his spring sledge journey of 1852 he showed what it was in the power of a really intrepid

* M. Bellot, on the return of Mr. Kennedy's expedition, was promoted to the rank of navy lieutenant. In a succeeding expedition, fitted out by the British Admiralty, under Captain Inglefield, he sailed again as a volunteer in H.M.S. *Phœnix*, but never returned. He was carried by a violent gust of wind, on the 21st of March, 1853, into a deep crack in the ice on which he was travelling. A considerable sum was raised in England for a monument to his memory.

traveller to accomplish. He was absent from his ship ninety-six days, and accomplished in that time a journey of eleven hundred miles!

In his modest narrative our explorer describes the general order of his arrangements. His party, including M. Bellot and himself, consisted of six persons. Their luggage and stores were borne on sleighs made after the Indian fashion, five Esquimaux dogs materially assisting in drawing them. These much enduring animals were found to be very accommodating in the way of food: "they thrive wonderfully well on old leather shoes and fag-ends of buffalo robes." The sleighs, therefore, were not much burdened by care for their provision.

With a little practice all parties became expert in erecting snow huts, which presented a dome-shaped structure, in which you had only to cut a small hole for a door, to find yourself within a very light, comfortable-looking bee-hive on a large scale, in which you could bid defiance to wind and weather. Any chinks between the blocks were filled up with loose snow with the hand from the outside; as they were best detected from within, a man was usually sent in to drive a thin rod through the spot where he discovered a chink, which was immediately plastered over by some one from without, till the whole house was as air-tight as an egg.

Mr. Kennedy returned to England in the close of that year. He would gladly have remained out another season, but his men were of a different mind; so he was compelled to relinquish his design and bring his ship home.

We come now to Sir Edward Belcher's expedition, which, in its conclusion at least, was an original one. He set sail on the 21st of April, 1852, with instructions to continue the search after Sir John Franklin, and to afford relief to the long absent crews of the *Enterprise* and *Investigator*. His squadron consisted of the *Assistance* and *Resolute*, the latter being under the command of Captain

Kellet; two steam-tugs, the *Intrepid* and *Pioneer*; and the *North Star*, under Commander Pullen.

The squadron kept well together till Beechey Island was reached, when a division of forces took place. The *North Star* was stationed as a dépôt ship; Captain Kellett, with the *Resolute* and *Intrepid*, proceeded westward to Melville Island, to lodge a supply of provisions and other necessities for the ships (see Chap. XVIII.) under Captain Collinson; and Sir Edward Belcher, with the *Assistance* and *Pioneer*, set off on his voyage of discovery up Wellington Channel.

The *Assistance* and *Pioneer* did not long enjoy the sweets of liberty. When they first started the Wellington Channel was clear and free from ice. Their progress was arrested at the head of Northumberland Sound before the end of August, and there they remained till the following July.

The *Resolute* and *Intrepid* cut into a floe off Dealey Island, and there they spent the winter. No sooner were the vessels settled in winter quarters, than Commander M'Clintock, of the *Resolute*, set out on what one of his shipmates called the "herculean task" of conveying provisions across Melville Island to form a dépôt at Hecla and Griper Bay for the spring travelling parties. Another party under Lieutenant Meham was fully employed at the same time in laying down dépôts for another intended expedition by way of Winter Harbour and Liddon Gulf.

On his return to the ship, Lieutenant Meham brought good and unexpected news. At Winter Harbour documents had been found from McClure, dated the preceding April, and establishing beyond doubt the fact of his discovery of the North-west Passage. They also contained the welcome intelligence that the *Investigator* and her crew were safe and well, though closely blocked up in the Bay of Mercy, Baring Island, about a hundred and seventy miles distant.

On the 26th of October M'Clintock returned from his

second trip across Melville Island, and after that the crews settled down to spend the winter as cheerfully as they could.

The winter was over at last. On the 9th of March, 1853, Lieutenant Pim began the spring campaign by starting for the Bay of Mercy, to carry greetings and help to the *Investigator*, if she were still there; and if not, to discover what route she had taken. A month later three other expeditions set out. The first was that of Commander M'Clintock, who went to Hecla and Griper Bay, and thence from Cape Fisher to pursue a north-west course as the land might tend. The second was under Lieutenant Meham, by Winter Harbour and Liddon Gulf; his farther course westward was to be regulated by the direction of the land and prosecuted as circumstances might permit. The third party, commanded by Lieutenant Hamilton, had orders to travel in a north-east direction by Cape Mudge.

Whilst these expeditions were away, a party of worn, emaciated men reached the *Resolute*. They were Captain McClure and his brave crew of the *Investigator*, and for further particulars on this head the reader is referred to Chapter XVIII., where he will find a full account of Captain McClure's memorable expedition.

The third expedition mentioned above, that of Lieutenant Hamilton, soon returned. On his outward journey Hamilton had quite unexpectedly met Commander Richards, of the *Assistance*, who was on his way to pay a friendly visit to Captain Kellet. He had journeyed about five hundred miles.

On the 5th of July Lieutenant Meham made his appearance, after having travelled upwards of a thousand miles in ninety-three days.

Last of all came M'Clintock with his party, safe and well. On their one hundred and six days' absence they had gone over no fewer than one thousand two hundred

miles. This was a feat without parallel in the previous records of arctic research.

On the part of the expeditions, however, toil and energy had been spent in vain so far as finding traces of the lost Franklin crews was concerned. The detachment of the squadron lying in Wellington Channel met with no better success. Sir E. Belcher was unwearied in his efforts, sending out sledge parties, and himself sharing the privations and fatigue; but all was useless.

The summer season of 1853 was late. The vessels in Wellington Channel were released from the ice in July, but the *Resolute* and her tender were only set free by a heavy gale on the 18th of August. None of the ships long enjoyed freedom. On the 1st of September the *Assistance* and *Pioneer* were frozen in again about thirty-six miles north of Beechey Island, and the *Resolute* was soon after fixed in the ice, this time twenty-eight miles south-west of Cape Cockburn.

No particular event marked the winter with either division of the squadron. In April, 1854, Lieutenant Meham set out on a sledge journey to the Prince of Wales's Straits, which ended in throwing into the shade even M'Clintock's wonderful exploit of the preceding spring. The gallant young officer and his party left the ship with two sledges on the 3rd of April, and arrived at the Princess Royal Islands on the 4th of May.

At this point McClure had made his first winter quarters, and here, to the great satisfaction of the present explorers, a document was found stating that H.M.S. *Enterprise* had in 1851 passed up the strait to Point Peel; returned, and after following the west coast of Baring Island to latitude $72^{\circ} 55' N.$, had wintered in 1851-2 in latitude $70^{\circ} 35' N.$, longitude $177^{\circ} 40' W.$, and that information of her movements would be found on an islet in latitude $71^{\circ} 36' N.$ longitude $119^{\circ} W.$

This discovery induced the whole party to redouble their

exertions. They provisioned the sledge for ten days and pressed onward. The documents alluded to were found on Ramsay Island. They were clear and full, and contained satisfactory information of the doings and future intentions of those on board the *Enterprise*.

The return journey of the party from the *Resolute* was a most difficult one. They reached at last a house which had been built on Dealey Island, and, much to their surprise, found directions awaiting them to proceed at once to Beechey Island. After their departure, orders had been received by Captain Kellett to abandon both the *Resolute* and *Intrepid*.

To Beechey Island they therefore proceeded, and reached it, tired enough, on the 12th of June. The distance traversed during this expedition had been upwards of thirteen hundred miles, and the time occupied seventy days.

The *North Star* now became rapidly filled. The crews of the *Investigator*, *Resolute*, and *Intrepid* were already on board, and on the 25th of August Sir Edward Belcher gave decisive orders for the abandonment of the *Assistance* and *Pioneer*. These vessels had been fixed in the ice since the preceding September, between twenty and thirty miles of floe lying between them and open water. An attempt at blasting had given them no assistance, and there seemed no hope of their getting through that summer.

On the 26th of August, 1854, the last ship of the ill-fated expedition was deserted, and all the officers and men of the *Assistance*, *Resolute*, *Pioneer*, *Intrepid*, and *Investigator*, got on board the *North Star*. Just then the *Phœnix*, Captain Inglefield, and, the *Talbot*, store-ship, hove in sight.

On board these two ships a number of men were placed, and so the crowded decks of the *North Star* were considerably relieved. No time was now lost in beating a retreat. On the 6th of September all reached Disco in safety, and the return to England was accomplished on the 28th of September, 1854.

An odd part of the story remains to be told. Captain Kellett's ship, the *Resolute*, was afterwards found adrift a thousand miles away from where she was abandoned. She was picked up by a Mr. George Henry, commanding an American whaler, who brought her to New York. The British Government, having abandoned their claim on the vessel, she was bought by order of the American Congress, thoroughly repaired and equipped, and intrusted to Captain H. J. Hartstene, to be presented to Queen Victoria. The *Resolute* arrived in Southampton on the 12th of December, 1856; was visited by her majesty on the 16th, and formally surrendered on the 30th.

Most melancholy news about Franklin's expedition reached England in 1853. Dr. Rae had been on an exploring expedition in Boothia. Among the Esquimaux he had found various articles of silver plate belonging to the ill-fated officers accompanying Franklin, and had also learned many particulars of a truly distressing character.

"On the morning of the 20th," says Dr. Rae, "we were met by a very intelligent Esquimaux, driving a dog-sledge laden with musk-ox beef. This man at once consented to accompany us two days' journey, and in a few minutes had deposited his load on the snow and was ready to join us. Having explained to him my object, he said that the road by which he had come was the best for us, and having lightened the men's sledges, we travelled with more facility.

"We were now joined by another of the natives, who had been absent seal hunting yesterday, but being anxious to see us, had visited our snow-house early this morning, and then followed up our track. This man was very communicative, and on putting to him the usual questions as to his having seen 'white men' before, or any ships or boats, he replied in the negative; but said that a party of 'Kabloomans' had died of starvation a long distance to the west of where we then were, and beyond a large river. He stated that

he did not know the exact place, that he never had been there, and that he could not accompany us so far. The substance of the information then, and subsequently obtained from various sources, was to the following effect:—

“In the spring four winters past (1850) while some Esquimaux families were killing seals near the north shore of a large island, named in Arrowsmith's charts King William's Land, about forty white men were seen travelling in company southward over the ice, and dragging a boat and sledges with them. They were passing along the west shore of the above named island. None of the party could speak the Esquimaux language so well as to be understood, but by signs the natives were led to believe that the ship or ships had been crushed by ice, and that they were now going to where they expected to find deer to shoot. From the appearance of the men, all of whom with the exception of an officer were hauling on the drag-ropes of the sledge, and looked thin, they were then supposed to be getting short of provisions, and they purchased a small seal, or piece of a seal, from the natives. The officer was described as being a tall, stout, middle-aged man. When the day's journey terminated, they pitched tents to rest in.

“At a later date the same season, but previous to the disruption of the ice, the corpses of some thirty persons and some graves were discovered on the continent, and five dead bodies on an island near it, about a long day's journey to the north-west of a large stream, which can be no other than Back's Great Fish River (named by the Esquimaux Oot-koo-hi-ca-lik) as its description and that of the low shore in the neighbourhood of Point Ogle and Montreal Island agree exactly with that of Sir George Back. Some of the bodies were in a tent, or tents; others were under the boat, which had been turned over to form a shelter, and some lay scattered about in different directions.

Of those men on the island it was supposed that one was an officer (chief) as he had a telescope strapped over his shoulder and a double-barrelled gun lay underneath him.

From the mutilated state of many of the bodies, and the contents of the kettles, it is evident that our wretched countrymen had been driven to the dread alternative of cannibalism as a means of sustaining life. A few of the unfortunate men must have survived until the arrival of the wild-fowl (say until the end of May), as shots were heard, and fresh bones and feathers of geese were noticed near the scene of the sad event.

"There appears to have been an abundant store of ammunition, as the gunpowder was emptied by the natives in a heap on the ground out of the kegs or cases containing it; and a quantity of shot and ball was found below high-water mark, having probably been left on the ice close to the beach before the spring commenced. There must have been a number of telescopes, guns (some of them double-barrelled), watches, compasses, etc., all of which seem to have been broken up, as I saw pieces of these different articles with the natives, and I purchased as many as possible, together with some silver spoons and forks, an order of merit in the form of a star, and a small silver plate engraved, 'Sir John Franklin, K.C.B.'"

Dr. Rae observes in conclusion that he does not think any violence was offered to the sufferers by the natives; he believes they died of starvation. The following is a list of the articles obtained from the Esquimaux:—one silver table-fork, crest, an animal's head with wings extended above; three silver table-forks, crest, a bird with wings extended; one silver table-spoon, crest, with initials "F. R. M. C." (Captain Crozier, *Terror*); one silver tablespoon and one fork, crest, bird with laurel branch in mouth, motto, "*Spero meliora*"; one silver tablespoon; one tea-spoon; and one dessert-fork, crest, a fish's head looking

upwards, with laurel branches on each side; one silver table-fork, initials, "H. D. S. G." (Harry D. S. Goodsir, assistant-surgeon, *Erebus*); one silver tablefork, initials "A. McD." (Alexander McDonald, assistant-surgeon, *Terror*); one silver tablefork, initials, "G. A. M." (Gillies A. Macbean, second master, *Terror*); one silver tablefork, initials, "J. T."; one silver dessert-spoon, initials, "J. S. P." (John S. Peddie, surgeon, *Erebus*); one round silver plate, engraved, "Sir John Franklin, K.C.B."; a star or order, with motto, "*Nec aspera terrent*. G. R. iii. MDCCCXV."



KNAPSACK AND PILLOW FOR NORTHERN VOYAGERS.

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DR. ELISHA KENT KANE.

Ice-World Adventures.]

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CHAPTER XVI.

IN SEARCH OF FRANKLIN (continued).

DR. KANE'S EXPEDITION—STARTING FROM BOSTON IN 1853—SECURE IN RENSSELAER BAY—APPROACHING WINTER—EFFECTS OF THE COLD—WINTER AMUSEMENTS—THE POOR DOGS—A DAY'S DOINGS—THE ICE-HOUSE OBSERVATORY—RETURNING SPRING—AN UNFORTUNATE SLEDGE EXPEDITION—ALMOST STARVED TO DEATH—VARIOUS SLEDGE EXPEDITIONS—A COUNCIL OF THE CREW—THE SECOND WINTER—SEAL HUNTING—A PERILOUS ADVENTURE—ABANDONING THE BRIG—THE OPEN SEA-WAY AT LAST—SHOOTING A SEAL—ARRIVING AT THE DANISH SETTLEMENTS—THE END OF DR. KANE.

ONE of the most celebrated of arctic explorers is Dr. Elisha Kent Kane. His career of discovery commenced in 1850, when he acted as surgeon, naturalist, and historian to the first Grinnell expedition. In 1853 he was again sent out, this time as commander of a second Grinnell expedition. With this most interesting voyage we have at present to deal.

It was in December, 1852, that Dr. Kane received special orders from the secretary of the United States Navy "to conduct an expedition to the arctic seas in search of Sir John Franklin."

"I had been engaged," says Dr. Kane in the delightful book in which he afterwards gave the narrative of his adventures, "under Lieutenant De Haven, in the Grinnell expedition, which sailed from the United States in 1850 on the same errand; and I had occupied myself for some months after our return in maturing the scheme of a renewed effort to rescue the missing party, or at least to resolve the mystery of its fate."

"Mr. Grinnell, with a liberality altogether characteristic, had placed the *Advance*, in which I sailed before, at my

disposal for the cruise; and Mr. Peabody, of London, the generous representative of many American sympathisers, had proffered his aid largely toward her outfit. The Geographical Society of New York, the Smithsonian Institution, the American Philosophical Society—I name them here in the order in which they announced their contributions—and a number of scientific associations and friends of science besides, had come forward to help me and by their aid I managed to secure a better outfit for purposes of observation than would otherwise have been possible to a party so limited in numbers and absorbed in other objects."

In point of dramatic interest few of the arctic expeditions can rival this one of Dr. Kane's. Weak in body, but vigorous in spirit, Dr. Kane started from Boston in 1853, in the *Advance*, with a crew of seventeen officers and men, to which two Greenlanders were afterwards added. His plan was to pass up Baffin's Bay to its most northern attainable point, and thence pressing on towards the Pole, as far as could be reached by boats or sledges, to examine the coast-lines for vestiges of Franklin.

After struggling with storms and icebergs, he passed on the 7th of August, 1853, the rocky portals of Smith's Sound. Then followed many narrow escapes from shipwreck; but at last the *Advance* was secured in Rensselaer Bay, from which she was destined never to get free. In Dr. Kane's diary we have a vivid account of the first winter he spent in this haven, in latitude $78^{\circ} 38'$, almost as far north as the most northern extremity of Spitzbergen, and in a much more rigorous climate.

"September 10; 14° Fah. The birds have left. The sea-swallows, which abounded when we first reached here, and even the young burgomasters that lingered after them, have all taken their departure for the south. The long 'night in which no man can work' is close at hand; in another month we shall lose the sun. Astronomically, he

should disappear on Oct. 24, if our horizon were free; but it is obstructed by a mountain ridge, and making allowance for refraction, we cannot count on seeing him after the 10th.

"*September 11.* The long staring day, which has clung to us for more than two months, to the exclusion of the stars, has begun to intermit its brightness. Even Aldebaran, the red eye of the bull, flared out into familiar recollection as early as ten o'clock; and the heavens, though still somewhat reddened by the gaudy tints of midnight, gave us Capella and Arcturus, and even that lesser light of home memories, the polar star. Stretching my neck to look uncomfortably at the indication of our extreme northernness, it was hard to realize that he was not directly overhead; and it made me sigh as I measured the few degrees of distance that separated our zenith from the Pole over which he hung.

"*October 28.* The moon has reached her greatest northern declination, of about $25^{\circ} 35'$. She is a glorious object sweeping around the heavens; at the lowest part of her curve she is still 14° above the horizon. For eight days she has been making her circuit with nearly unvarying brightness. It is one of those sparkling nights that bring back the memory of sleigh-bells and songs, and glad communings of hearts in lands that are far away.

"*November 7.* The darkness is coming on with insidious steadiness, and its advances can only be perceived by comparing one day with its fellow of some time back. We still read the thermometer at noonday without a light, and the black masses of the hills are plain for about five hours, with their glaring patches of snow; but all the rest is darkness. The stars of the sixth magnitude shine out at noonday.

"Except upon the island of Spitzbergen, which has the advantages of an insular climate, and tempered by ocean currents, no Christians have wintered in so high a latitude

as this.* They were Russian sailors who made the encounter there: men inured to hardships and cold. Our darkness has ninety-three days to run before we shall get back again even to the contested twilight of to-day. Altogether our winter will have been sunless for one hundred and forty days.

"November 9. Wishing to get the altitude of the cliffs on the south-west cape of our bay before the darkness set in thoroughly, I started in time to reach them with my Newfoundlanders at noonday; the thermometer indicating 23° below zero. Fireside astronomers can hardly realize the difficulties in the way of observations at such low temperatures. The breath, and even the warmth of the face and body, cloud the sextant-arc and glasses with a fine hoar-frost. It is, moreover, an unusual feat to measure a base line in the snow at 55° below freezing.

"November 21. We have schemes innumerable to cheat the monotonous solitude of our winter: a fancy ball; a newspaper, *The Iceblink*; a fox-chase round the decks.

"December 15. We have lost the last vestige of our midday twilight. We cannot see print, and hardly paper the fingers cannot be counted a foot from the eyes. Noon-day and midnight are alike; and except a vague glimmer in the sky that seems to define the hill outlines to the south, we have nothing to tell that this arctic world of ours has a sun. In the darkness, and consequent inaction, it is almost in vain that we seek to create topics of thought, and by a forced excitement to ward off the encroachments of disease."

The effect of the long continued darkness was depressing in the extreme, especially on the poor dogs, many of whom died during the winter. As for the men, they were kept occupied in various ways, and a graphic description of their day's doings towards the close of this dreary season is thus given by Dr. Kane:—

* Rensselaer Harbour is situated 1° 46' higher than Sir E. Belcher's winter quarters in Northumberland Sound, 76° 52.'

"At six in the morning McGary is called, with all hands who have slept in. The decks are cleared, the ice-hole opened, the refreshing beef-nets examined, the ice-tables measured, and things aboard put to rights. At half-past seven all hands rise, wash on deck, open the doors for ventilation, and come below for breakfast. We are short of fuel, and therefore cook in the cabin. Our breakfast—for all share alike—is hard tack, pork stewed, stewed apples, frozen like molasses-candy, tea and coffee, with a delicate portion of raw potato.

"After breakfast the smokers take their pipe till nine; then all hands turn to, idlers to idle and workers to work: Ohlesen to his bench, Brooks to his 'preparations' in canvas, McGary to play tailor, Whipple to make shoes, Bonsall to tinker, Baker to skin birds, and the rest to the 'office.' Take a look into our arctic bureau! One table, one salt pork lamp with rusty chlorinated flame, three stools, and as many waxen-faced men with their legs drawn up under them, the deck at zero being too cold for the feet. Each has his department. Kane is writing, sketching, and projecting maps; Hayes copying logs and meteorologicals; Sontag reducing his work at Fern Rock; a fourth, as one of the working members of the hive, has long been defunct—you will find him in bed studying Littell's 'Living Age.'

"At twelve, a business round of inspection, and orders enough to fill up the day with work. Next the drill of the Esquimaux dogs—my own peculiar recreation; a dog trot specially refreshing to legs that creak with every kick, and rheumatic shoulders that chronicle every descent of the whip. And so we get on to dinner-time, the occasion of another gathering, which misses the tea and coffee of breakfast, but rejoices in pickled cabbages and dried peaches instead.

"At dinner, as at breakfast, the raw potato comes in, our hygienic luxury. Like doctor's stuff generally, it is not as appetising as desirable. Grating it down nicely,

leaving out the ugly red spots liberally, and adding the utmost oil as a lubricant, it is as much as I can do to persuade the mess to shut their eyes and bolt it. Two absolutely refuse to taste it.

"Sleep, exercise, amusement, and work at will, carry on the day till our six o'clock supper, a meal something like breakfast and something like dinner, only a little more scant; and the officers come in with the reports of the day. Dr. Hayes shows me a log, I sign it; Sontag the weather, I sign the weather; Mr. Bonsall the tides and the thermometers. Thereupon comes in mine ancient Brooks, and I enter in his journal, No. 3, all the work done under his charge, and discuss his labours for the morrow. McGary comes next, with the clearing-up arrangements inside, outside, and on decks; and Mr. Wilson follows with ice measurements; and last of all comes my own record of the day gone by, every line, as I look back upon its pages, giving evidence of a weakened body and harassed mind. We have cards sometimes, and chess sometimes, and a few magazines, Mr. Littell's thoughtful present, to cheer away the evening.

"All this seems tolerable for commonplace routine; but there is a lack of comfort which it does not tell of. Our fuel is limited to three bucketfuls of coal a day, and our mean temperature outside is 40° below zero; 46° below as I write. London brown stout and somebody's old brown sherry freeze in the cabin lockers, and the carlines overhead are hung with tubs of chopped ice, to make water for our daily drink. Our lamps cannot be persuaded to burn salt lard; our oil is exhausted, and we work by muddy tapers of cork and cotton floated in saucers. We have not a pound of fresh meat, and only a barrel of potatoes left. Not a man now, except Pierre and Morton, is exempt from scurvy; and as I look round on the pale faces and haggard looks of my comrades, I feel we are fighting the battle of life at a disadvantage, and that an arctic night and an

arctic day age a man more rapidly and harshly than a year anywhere else in all this weary world."

So cold did it become, that it was found almost impossible to continue the magnetic observations in an observatory which had been erected on Fern Island. The mean temperature could not be kept up to the freezing point, and it was no uncommon thing to find the platform on which the observer stood fully 20° below zero. The severe duties connected with this ice-house observatory are thus referred to by the doctor:—

"Imagine it a term-day, a magnetic term-day. The observer, if he were only at home, would be the 'observed of all observers.' He is clad in a pair of sealskin pants, a dogskin cap, a reindeer jumper, and walrus boots. He sits upon a box that once held a transit. A stove, glowing with at least a bucketful of anthracite, represents pictorially a heating apparatus, and reduces the thermometer as near as may be to ten degrees below zero. One hand holds a chronometer, and it is left bare to warm it; the other luxuriates in a foxskin mitten. The right hand and the left hand take it 'watch and watch about.' As one burns with cold, the chronometer shifts to the other, and the mitten takes its place. Perched on a pedestal of frozen gravel is a magnetometer; stretching out from it a telescope; and bending down to this an abject human eye. Every six minutes said eye takes cognisance of a finely divided arc, and notes the result in a cold memorandum book. This process continues for twenty-four hours, two sets of eyes taking it by turns; and when twenty-four hours are over, term-day is over too."

At last the terrible winter drew to a close. On February 21st Dr. Kane writes, "We have had the sun for some days silvering the ice between the headlands of the bay; and to-day, towards noon, I started out to be the first of my party to welcome him back. It was the longest walk and toughest climb I have had since our imprisonment,

and scurvy and debility have made me 'short o' wind.' But I managed to attain my object. I saw him once more, and upon a projecting crag nestled in the sunshine. It was like bathing in perfumed water."

Now came the time for undertaking the sledge journeys on which the success of the expedition mainly depended. Of nine magnificent Newfoundlanders and thirty-five Esquimaux dogs originally possessed by Kane six only survived. Some new purchases, however, were made from the Esquimaux who visited the ships.

The first of the expeditions organized for the purpose of making a dépôt of provisions in advance set out on the 20th of March.

"I saw the dépôt party off yesterday," Dr. Kane writes on the 21st. "They gave the usual three cheers, with three for myself. I gave them the whole of my brother's great wedding-cake and my last two bottles of port, and they pulled the sledge they were harnessed to famously. But I was not satisfied. I could see it was hard work; and besides, they were without the boat, or enough extra pemmican to make their deposit of importance. I followed them therefore, and found that they encamped at 8 p.m. only five miles from the brig. When I overtook them I said nothing to discourage them, and gave no new orders for the morning; but after laughing at good Ohlesen's rueful face, and listening to all Petersen's assurances that the cold, and nothing but the cold, retarded his Greenland sledge, and that no sledge of any other construction could have moved at all through -40° snow, I quickly bade them good night, leaving all hands under their buffalo-robies.

"Once returned to the brig, all my tired remainder-men were summoned. A large sledge with broad runners, which I had built somewhat after the neat Admiralty model sent me by Sir Francis Beaufort, was taken down, scraped, polished, lashed, and fitted out with *rue-raddies* (shoulder-

belts); the lines arranged to draw as nearly as possible in a line with the centre of gravity. We made an entire cover of canvas, with snugly adjusted fastenings; and by one in morning we had our discarded excess of pemmican and the boat once more in stowage.

"Off we went to the camp of the sleepers. It was very cold, but a thoroughly arctic night. The snow just tinged with the crimson stratus above the sun, which, equinoctial as it was, glared beneath the northern horizon like a smoking furnace. We found the tent of the party by the bearings of the stranded bergs. Quietly and steadily we hauled away their Esquimaux sledge, and placed her cargo upon the 'Faith.' Five men were then rue-raddied to the tracklines, and, with the whispered word, 'Now, boys, when Mr. Brooks gives his third snore, off with you!' off they went, and the 'Faith' after them as free and nimble as a volunteer. The trial was a triumph; we awakened the sleepers with three cheers; and giving them a second good-bye returned to the brig, carrying the dishonoured vehicle along with us. And now, bating mishaps past anticipation, I shall have a *dépôt* for my long trip."

IN fortune awaited the party who had thus started. They had been absent about a week when one night, about midnight, those on board the brig were amazed by the return of three of the absentees, Sontag, Ohlesen, and Petersen. They were swollen and haggard, and hardly able to speak. In broken syllables they told a dreadful tale. They had left their companions, Brooks, Baker, Wilson, and Pierre, lying frozen and disabled on the ice.

Where were they? They could not tell; somewhere in among the hummocks to the north and east. Irish Tom had remained to take care of the others whilst they had pushed on for help.

Kane started off at once. The rescue party consisted of ten men, including Dr. Kane, almost all of whom would in ordinary circumstances have been placed on the sick-list.

The thermometer stood at 70° below freezing point. After sixteen hours' travel they lost their way. Dr. Kane knew that the lost men must be somewhere within a radius of forty miles from where they stood, but there was nothing to indicate the point of the compass towards which they should direct their steps.

Kane pushed ahead of his party, and from a little eminence saw a long level floe, which he thought might attract the eye of weary men in circumstances like their own. Here he gave orders to pitch the tent, abandon the sledge, and disperse on foot. The thermometer had now fallen to 49° below zero, and a sharp breeze was blowing from the north-west, so that it was absolutely impossible to keep themselves from freezing except by unrelenting and vigorous exercise.

The men spread themselves in all directions. "But though all obeyed heartily," says Kane, "some painful impress of solitary danger, or perhaps it may have been the varying configuration of the ice-field, kept them closing up continually into a single group. The strange manner in which some of us were affected I now attribute as much to shattered nerves as to the direct influence of the cold. Men like McGary and Bonsall, who had stood out our severest marches, were seized with trembling fits and short breath; and in spite of all my efforts to keep up an example of sound bearing, I fainted twice on the snow.

"We had been nearly eighteen hours out without water or food when a new hope cheered us. I think it was Hans, our Esquimaux hunter, who thought he saw a broad sledge track. The drift had nearly effaced it, and we were some of us doubtful at first whether it was not one of those accidental rifts which the gales make in the surface snow. But as we traced it on the deep snow among the hummocks, we were led to footsteps; and following these with religious care, we at last came in sight of a small American flag fluttering from a hummock,

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PERISHING OF COLD.

Ice World Adventures.

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and, lower down, a little masonic banner hanging from a tent-pole, hardly above the drift. It was the camp of our disabled comrades. We reached it after an unbroken march of twenty-one hours."

Dr. Kane was not the first to reach the tent, but when he came to it, he found the men silently ranged in file on either side of it. With a kindness and delicacy of feeling that would scarcely have been expected, they signified a wish that he would enter first. He crawled in, and received a joyful welcome from the four poor fellows, who lay stretched on their backs. "They had expected him; they were sure he would come," they said.

The tent was too small to admit all the party. Half of the worn out men had to keep themselves from being literally frozen to death, for the thermometer was 75° below zero, by walking up and down outside whilst the others slept. Each party rested for two hours, and then they prepared for the homeward march—a journey of fifty hours. The sick men were rolled up in furs, and lashed on a sledge. Then, after repeating a short prayer, they started for the ship.

Before reaching it they had a terrible journey. They arrived at last in such a state of mental and bodily prostration, that they were quite delirious, and moved about like men in a dream. A few days after Kane wrote in his journal, "The rescued men are not out of danger, but their gratitude is very touching. Pray God that they may live!" They did survive with one exception—Jefferson Baker died of lockjaw.

On the 25th of April, 1854, Dr. Kane started on his first exploring expedition. "This was," he says, "to be the crowning expedition of the campaign, to attain the *ultima thule* of the Greenland shore, measure the waste that lay between it and the unknown west, and seek round the farthest circle of the ice for an outlet to the mysterious channels beyond." The strength of the men had been so

much reduced that one could hardly have expected the journey to be a great success. It was carried on however with unflagging energy in the face of inconceivable difficulties. The depth and softness of the snow almost stopped them at one point; then at another they found that the bears had destroyed their store of provisions; and last, and worst of all, signs of scurvy began to be seen in the explorers. Dr. Kane's left foot became frozen, and he grew so unwell as to be quite delirious. He was strapped on the sledge and dragged along, and on returning to the brig was carried on board nearly insensible, and so swollen from scurvy as to be hardly recognisable.

Other sledge journeys followed, one commanded by Dr. Hayes and another by Morton. The latter proceeded as far north as latitude $81^{\circ} 22' N.$, and discovered an open ocean entirely free from ice.

The short summer was wearing on, and as far as the eye could reach the ice remained inflexibly solid. There seemed little chance of the brig getting free that year. Dr. Kane made up his mind to stand by the vessel, but he left his crew to decide for themselves. He summoned a council, directed the roll to be called, and each man to answer for himself. In response eight out of the seventeen survivors of the party resolved to remain.

The others left the brig on the 28th of August, hoping to make their way to the South Greenland settlements, and with a written assurance that should they be compelled to return they would receive a brother's welcome. One of the men returned a few days afterwards; but weary months went by before the rest were driven back to their old home in Renssellaer Harbour.

Dr. Kane and those who stuck by him now began active preparations for the long cold night. The energetic leader had carefully studied the Esquimaux, and made up his mind that their form of habitations, without their unthrift and filth, were the safest and best that could be adopted.

"The deck," says our writer, "was well padded with moss and turf, and down below a space some eighteen feet square—the apartment of all uses—was enclosed and packed from floor to ceiling with inner walls of the same non-conducting material. The floor itself, after having been carefully caulked, was covered with manilla oakum a couple of inches deep, and a canvas carpet. The entrance was from the hold, by a low, moss-lined tunnel, with as many doors and curtains to close it up as ingenuity could devise. Large banks of snow were also thrown up along the brig's sides to keep off the cold wind."

Amongst other occupations followed by the crew at this time was that of seal-hunting, and the risks which were sometimes run in pursuit of it may be seen from the following extract.

Dr. Kane and his Esquimaux hunter were on their dog-sledge travelling on the floes. "Hans sung out at the top of his voice, 'Pusey! puseymut! seal! seal!' At the same instant the dogs bounded forward and as I looked up I saw crowds of grey netsik—the rough or hispid seal of the whalers—disporting in an open sea of water.

"I had hardly welcomed the sight when I saw that we had passed upon a new belt of ice that was obviously unsafe. To the right and left and front was one great expanse of snow-flowered ice. The nearest solid floe was a mere lump, which stood like an island in the white level. To turn was impossible; we had to keep up our gait. We urged on the dogs with whip and voice, the ice rolling like leather beneath the sledge runners. It was more than a mile to the lump of solid ice. Fear gave the poor beasts their utmost speed, and our voices were soon hushed in silence.

"The suspense, unrelieved by action or effort, was intolerable. We knew that there was no remedy but to reach the floe, and that everything depended on our dogs,

and our dogs alone. A moment's check would plunge the whole concern in the rapid tideway. No presence of mind or resource, bodily or mental, could avail us. This desperate race against fate could not last. The rolling of the tough salt-water ice terrified our dogs, and when within fifty paces of the floe they paused. The left hand runner went through; our leader 'Toodlamick' followed, and in one second the entire left of the sledge was submerged. My first thought was to liberate the dogs. I leant forward to cut poor Tood's traces, and the next minute was swimming in a little circle of pasty ice and water alongside him. Hans, dear good fellow, drew near to help me, uttering piteous expressions in broken English; but I ordered him to throw himself on his belly with his hands and legs extended, and to make for the island by cogging himself forward with his jack-knife. In the meantime—a mere instant—I was floundering about with sledge, dogs, and line in confused puddle around me.

"I succeeded in cutting poor Tood's lines and letting him scramble to the ice, for the poor fellow was drowning me with his piteous caresses, and made my way for the sledge; but I found it would not buoy me, and that I had no resource but to try the circumference of the hole. Around this I paddled faithfully, the miserable ice always yielding when my hopes of a lodgment were greatest. During this process I enlarged my circle of operations to a very uncomfortable diameter, and was beginning to feel weaker at every effort. Hans meanwhile had reached the firm ice, and was on his knees, like a good Moravian, praying incoherently in English and Esquimaux. At every fresh crushing of the ice he would ejaculate 'God!' and when I recommenced my paddling he recommenced his prayers.

"I was nearly gone. My knife had been lost in cutting out the dogs; and a spare one which I carried in my

trousers pocket was so enveloped in the wet skins that I could not reach it. I owed my extrication at last to a newly-broken team dog, who was still fast to the sledge, and in struggling carried one of the runners chock against the edge of the circle. All my previous efforts to use the sledge as a bridge had failed, for it broke through, to the much greater injury of the ice. I felt it was a last chance. I threw myself on my back, so as to lessen as much as possible my weight, and placed the nape of my neck against the rim or edge of the ice; and then with caution slowly bent my leg, and placing the ball of my moccasined foot against the sledge, I pressed steadily against the runner, listening to the half-yielding crush of the ice beneath.

"Presently I felt that my head was pillowed by the ice, and that my wet fur jumper was sliding up the surface. Next came my shoulders: they were fairly on. One more decided push and I was launched on the ice and safe. I reached the ice-floe, and was frictioned by Hans with frightful zeal. We saved all the dogs, but the sledge, kayak, tent, guns, snow-shoes, and everything besides were left behind. They are likely to remain frozen fast in the sledge till we can come and cut them out."

On the 12th of December the party which had abandoned the ship returned, and was received in a most cordial and affectionate manner. They had failed to penetrate to the south. Their sufferings had been severe from the cold, want of food, and the fatigues of their march among the hummocks.

The winter passed at last. With March came an increase of trouble. Every man on board was tainted with scurvy, and there were seldom more than three able to attend on the sick. It was now absolutely necessary to abandon the ship.

On the 20th of May, 1855, the crew quitted the brig and made for the open water to the south, dragging their

boats after them on sledges. In the soft light of Sunday evening, June 17th, they stood beside the open sea-way. But fifty-six days had still to pass before they could reach Upernavik. Neither storms nor drift-ice rendered this part of the expedition dangerous; but our explorers had to contend with famine, and their boats were so unseaworthy as to require constant baling to keep them afloat. Their strength had decreased to an alarming degree, and the rowing and baling became every hour more difficult.

Providentially, just at this crisis of their fortunes they came on a seal which was seemingly asleep on a small patch of ice. "But," writes Kane, "he was not asleep, for he raised his head when we were almost within rifle-shot; and to this day I can remember the hard, careworn, almost despairing expression of the men's thin faces as they saw him move; their lives depended on his capture. The seal coiled himself for a plunge. At that instant, simultaneously with the crack of our rifle, he relaxed his long length on the ice, and at the very brink of the water his head fell helpless on one side.

"I would have ordered another shot, but no discipline could have controlled the men. With a wild yell, each vociferating according to his own impulse, they urged their boats upon the floes. A crowd of hands seized the seal, and bore him up to safer ice. The men seemed half crazy. I had not realized how much we were reduced by famine. They ran over the floe, crying and laughing and brandishing their knives. It was not five minutes before every man was sucking his bloody fingers or mouthing long strips of raw blubber. Not an ounce of this seal was lost."

A few days after this they neared the Danish settlements, and arrived there in safety about the beginning of August.

After the absence of thirty months, Dr. Kane returned on the 11th of October, 1855, to New York, where he was

received with enthusiasm. Well-deserved honours were paid to him on both sides of the Atlantic; but his health was completely broken down by the trials and privations he had undergone. He died at Havannah on the 16th of February, 1857, in the thirty-seventh year of his age.



EYE PRESERVERS.

CHAPTER XVII.

IN SEARCH OF FRANKLIN (continued).

THE *FOX* EXPEDITION UNDER CAPTAIN M'CLINTOCK—LADY FRANKLIN'S INSTRUCTIONS—AT HOLSTEINBORG—THREE WRECKED VESSELS—A MARBLE TABLET ON BEECHEY ISLAND—A TANTALIZING SITUATION—IN WINTER QUARTERS—POOR SPORT—SEARCH EXPEDITION IN THE SPRING—INFORMATION FROM THE NATIVES—RELICS OF THE FRANKLIN EXPEDITION—THE SKELETONS ON THE SHORE—THE CAIRN AT POINT VICTORY—A RECORD FOUND—A RETREATING CREW—THE BOAT AND TWO SKELETONS FOUND—RETURNING TO THE SHIPS—BOUND FOR ENGLAND.

AFTER all that had been told was done, public interest in Franklin's unhappy expedition was not satisfied. No certain information, it was said, had been obtained of the fate of the greater number of the men belonging to the two ships.

Government, however, declined sending out any more exploring parties to the polar seas. But Lady Franklin did not rest. By her own strenuous exertions, and those of her scientific friends, the steam-yacht *Fox*, of 177 tons, was purchased and sent out under the command of Captain M'Clintock.

"Lady Franklin," said Sir Roderick Murchison some time afterwards, "has indeed well shown what a devoted and true-hearted Englishwoman can accomplish. The moment that relics of the expedition commanded by her husband were brought home, in 1854, by Rae, and that she heard of the account given to him by the Esquimaux of a large party of Englishmen having been seen, struggling with difficulties, on the ice near the mouth of the Back or Great Fish River, she resolved to spend all her available means in an exploration of the limited area, to

which the search must henceforward be necessarily restricted. Lady Franklin was highly gratified when she obtained the willing services of Captain M'Clintock to command the yacht *Fox*, which she had purchased."

It was on the last day of June, 1857, that Lady Franklin went on board the *Fox* to bid farewell to the explorers and wish them God-speed. Her instructions, in a letter to Captain M'Clintock, were brief and to the purpose.

"As to the objects of the expedition and their relative importance," she writes, "I am sure you know that the rescue of any possible survivor of the *Erebus* or *Terror* would be to me, as it would be to you, the noblest result of our efforts. For this object I wish every other to be subordinate; and next to it in importance is the recovery of the unspeakably precious documents of the expedition, public and private, and the personal relics of my dear husband and his companions. And lastly, I trust it may be in your power to confirm, directly or inferentially, the claims of my husband's expedition to the earliest discovery of the passage, which, if Dr. Rae's report be true (and the Government of our country has accepted and rewarded it as such), these martyrs in a noble cause achieved at their last extremity, after five long years of labour and suffering, if not at an earlier period."

The small settlement of Holsteinborg was reached on the 28th of April, 1850, and such scanty supplies were obtained as the place afforded.

On the 8th of May the voyage was recommenced; Melville Bay was entered early in June, and our explorers crossed to Cape York by the 26th. There some natives were communicated with; they immediately recognised Mr. Petersen, Captain M'Clintock's interpreter, formerly known to them in the Grinnell expedition under Dr. Kane.

On the 12th of July they communicated with the Cape Warrender natives, near Cape Horsburgh; they had not

seen any ships since the visit of the *Phoenix* in 1854, nor had any wrecks ever drifted upon their shores.

It was not until the 27th of July that they reached Pond Inlet, owing to a most unusual prevalence of ice in the northern portion of Baffin's Bay, which rendered their progress since leaving Holsteinborg one of unceasing struggle. "Without steam power," says the commander of the expedition, "we could have done nothing."

At Pond Inlet only one old woman and a boy were found, but they served to pilot them up the inlet for twenty-five miles, when they arrived at their village. For about a week they were in constant and most interesting communication with these friendly people. Briefly, the information obtained from them was, that nothing whatever respecting the Franklin expedition had come to their knowledge, nor had any wrecks within the last twenty or thirty years reached their shores.

The remains of three wrecked ships were known to them; two of these appear to have been the whalers *Dexterity* and *Aurora*, wrecked in August, 1821, some seventy or eighty miles southward of Pond Inlet. The third vessel, now almost buried in the sand, lies a few miles east of Cape Hay. This people communicate overland every winter with the tribes at Igloodik; they all knew of Parry's ships having wintered there in 1822-3, and had heard of Dr. Rae's visit to Repulse Bay. They spoke of Dr. Rae and his party as living in tents, and within snow-houses, smoking pipes, and shooting reindeer.

Within Pond Inlet it appears that the ice decays away every year, but so long as any remains whales abound. Several large whales were seen by the crew of the *Fox*, and they found in possession of the natives a considerable quantity of whalebone and many narwhals' horns, which they were anxious to barter for knives, files, saws, rifles, and wool.

Leaving Pond Inlet on the 6th of August, our explorers

reached Beechey Island on the 11th, and landed a handsome marble tablet, sent on board for this purpose by Lady Franklin, bearing an appropriate inscription to the memory of our lost countrymen in the *Erebus* and *Terror*.

The provisions and stores seemed in perfect order, but a small boat had been much damaged from having been turned over and rolled along the beach by a storm. The roof of the house received some necessary repairs. Having embarked some coals and stores they stood in need of, and touched at Cape Hotham on the 16th, they sailed down Peel Strait for twenty-five miles on the 17th. Finding the remainder of this channel covered with unbroken ice, Captain M'Clintock determined to make for Bellot Strait on the 19th of August, examine into supplies remaining at Port Leopold, and leave there a whaleboat which had been brought away from Cape Hotham for the purpose, so as to aid them in their retreat, should they be obliged eventually to abandon the *Fox*.

Prince Regent Inlet was unusually free from ice, and little of interest was seen during their run down to Brentford Bay, which they reached on the 20th of August. Bellot Strait, which communicates with the western sea, averages one mile in width by seventeen or eighteen miles in length. At this time it was filled with drift-ice, but as the season advanced it became perfectly clear; its shores were in many places faced with lofty granite cliffs, and some of the adjacent hills rose to 1600 feet; the tides were very strong, running six or seven knots at the springs.

On the 6th of September they passed through Bellot Strait without obstruction, and secured the ship to fixed ice across its western outlet. From hence, until the 27th, when Captain M'Clintock deemed it necessary to retreat into winter quarters, they constantly watched the movements of the ice in the western sea or channel. In mid-channel it was broken up and drifting about; gradually the proportion of water increased, until at length the ice

which intervened was reduced to three or four miles in width. But this was held fast by numerous islets, and withstood the violence of the autumn gales. It was tantalizing beyond description thus to watch from day to day the free water which they could not reach, and which washed the rocky shore a few miles to the southward.

During the autumn attempts were made to carry dépôts of provisions towards the magnetic pole; but these almost entirely failed in consequence of the disruption of the ice to the southward. Lieutenant Hobson returned with the sledge parties in November, after much suffering from severe weather, and immediate peril on one occasion. The ice on which they had encamped had become detached from the shore, and drifted off to leeward with them.

The wintering position of the *Fox* was at the east entrance to Bellet Strait, in a snug harbour, which the explorers named Port Kennedy. Although vegetation was tolerably abundant, and two Esquimaux hunters, Mr. Petersen, and several other sportsmen were constantly on the alert, yet the resources of the country during eleven months and a half only yielded eight reindeer, two bears, eighteen seals, and a few waterfowl and ptarmigan.

The winter was unusually cold and stormy. It was partly spent in making arrangements for carrying out the intended plan of search. Captain M'Clintock felt it to be his duty to visit personally Marshal Island, and in so doing he proposed to complete the circuit of King William Island.

To Lieutenant Hobson was allotted the search of the western shore of Boothia to the magnetic pole, and from Gateshead Island westward to Wynniatt's farthest. Captain Allan Young, then acting as sailing-master, was to trace the shore of Prince of Wales Land from Lieutenant Browne's farthest, and also to examine the coast from Bellet Strait northwards to Sir James Ross's farthest.

Early spring journeys were commenced on the 17th of

February, 1859, by Captain M'Clintock and Captain Young. Captain Young carried his dépôt across to Prince of Wales Land, whilst Captain M'Clintock went southward, in the hope of communicating with the Esquimaux, and obtaining such information as might lead at once to the object of their search.

Captain M'Clintock was accompanied by Mr. Peterson, the interpreter, and Alexander Thomson, the quartermaster. They had with them two sledges drawn by dogs. On the 28th of February they had the good fortune to fall in with a small party of natives, and were subsequently visited by about forty-five individuals.

For four days they remained in communication with them, obtained many relics, and the information that several years ago a ship was crushed by the ice off the north shore of King William's Island, but that all her people landed safely, and went away to the Great Fish River, where they died. This tribe was well supplied with wood, obtained, they said, from a boat left by the white men on the Great River.

Captain M'Clintock and his party returned to their vessel, after twenty-five days' absence, in good health, though somewhat reduced by sharp marching and the unusually severe weather to which they had been exposed. For several days after starting the mercury had continued frozen.

The 2nd of April was the date when the long projected spring journeys fairly began. Lieutenant Hobson accompanied Captain M'Clintock as far as Cape Victoria; each of them had a sledge drawn by four men, and an auxiliary sledge drawn by six dogs. This was all the force they could muster.

Before separating they saw two Esquimaux families living out upon the ice in snow huts. From them they learned that a second ship had been seen off King William Island, and that she drifted ashore in the fall of the same

year. From this ship they had obtained a vast deal of wood and iron.

Captain M'Clintock gave Lieutenant Hobson directions to search for the wreck, and to follow up any traces he might find upon King William Island.

Accompanied by his own party and Mr. Petersen, Captain M'Clintock marched along the east shore of King William Island, occasionally passing deserted snow huts, but without meeting natives, till the 8th of May, when, off Cape Norton, they arrived at a snow village containing about thirty inhabitants. These gathered about our explorers without the slightest appearance of fear or shyness, although none of them had ever seen living white people before. They were most willing to communicate all their knowledge and barter all their goods, and would have stolen everything had they not been very closely watched. Many more relics of our countrymen were obtained. Captain M'Clintock could not carry away all he might have purchased. The natives pointed to the inlet he had crossed the day before, and told him that one day's march up it, and thence four days overland, brought them to the wreck.

None of these people had been there since 1857-8, at which time they said but little remained, their countrymen having carried away almost everything.

Most of this information was received from an intelligent old woman; she said it was in the fall of the year that the ship was forced ashore; many of the white men dropped by the way as they went towards the Great River; but this was only known to them in the winter following, when their bodies were discovered.

They all assured our explorers that they would find natives upon the south shore, at the Great River, and some few at the wreck; but unfortunately this was not the case. Only one family was met with off Point Booth, and none at Montreal Island or any place subsequently visited.

Point Ogle, Montreal Island, and Barrow Island were

searched without finding anything except a few scraps of copper and iron in an Esquimaux hiding-place.

Recrossing the strait to King William Island, they continued the examination of its southern shore.

"We were now," says M'Clintock, "upon the shore along which the retreating crews must have marched. My sledges, of course, travelled upon the sea-ice close along the shore, and although the depth of snow which covered the beach deprived us of almost every hope, yet we kept a very sharp look-out for traces, nor were we unsuccessful. Shortly after midnight of the 25th of May, when slowly walking along a gravel ridge near the beach, which the wind kept partially bare of snow, I came upon a human skeleton, partly exposed, with here and there a few fragments of clothing appearing through the snow. The skeleton—now perfectly bleached—was lying upon its face, the limbs and smaller bones either dissevered or gnawed away by small animals.

"A most careful examination of the spot was of course made, the snow removed, and every scrap of cloth gathered up. A pocket-book afforded strong grounds for hope that some information might be subsequently obtained respecting the unfortunate owner and the calamitous march of the lost crew, but at the time it was frozen hard. The substance of that which we gleaned upon the spot may thus be summed up:—

"This victim was a young man, slightly built, and perhaps above the common height; the dress appeared to be that of a steward or officer's servant, the loose bow-knot in which his neckhandkerchief was tied not being used by seamen or officers. In every particular the dress confirmed our conjectures as to his rank or office in the late expedition—the blue jacket with slashed sleeves and braided edging, and the pilot cloth greatcoat with plain covered buttons. We found also a clothes-brush near, and a horn pocket-comb. This poor man seems to have

selected the bare ridge top, as affording the least tiresome walking, and to have fallen on his face in the position in which we found him. It was a melancholy truth the old woman spoke when she said, 'They fell down and died as they walked along.' This discovery was made about ten miles eastward of Cape Herschel.

On reaching Cape Herschel next day, they examined Simpson's Cairn, or rather what remained of it. It was only four feet high, and the central stones had been removed as if by men seeking something within it. Captain M'Clintock's impression was, that records were deposited there by the retreating crews, and subsequently removed by the natives.

We turn now to Lieutenant Hobson's expedition. After parting from Captain M'Clintock at Cape Victoria on the 28th of April, Hobson made for Cape Felix. A short distance westward of it he found a very large cairn, and close to it three small tents, with blankets, old clothes, and other relics of a shooting or a magnetic station. But although the cairn was dug under, and a trench dug all round it at a distance of ten feet, no record was discovered. A piece of blank paper folded up was found in the cairn, and two broken bottles, which may perhaps have contained records, lay beside it, among some stones which had fallen from off the top. The most interesting of the articles discovered here, including a boat's ensign, were brought away by Mr. Hobson. About two miles farther to the S.W. a small cairn was found, but neither records nor relics were obtained. About three miles north of Point Victory a second small cairn was examined, but only a broken pickaxe and an empty canister were found.

On the 6th of May Lieutenant Hobson pitched his tent beside a large cairn upon Point Victory. Lying among some loose stones which had fallen from the top of this cairn was found a small tin case containing a record.

"Upon it," says Captain M'Clintock, "was written, apparently by Lieutenant Gore, as follows:—

'28th of May, 1847. { H.M. ships *Erebus* and *Terror* wintered in the ice in lat. $70^{\circ} 05' N.$, long. $98^{\circ} 23' W.$

'Having wintered in 1846-47 at Beechey Island, in lat. $74^{\circ} 43' 28'' N.$, long. $91^{\circ} 39' 15'' W.$, after having ascended Wellington Channel to lat. 77° , and returned by the west side of Cornwallis Island.

'Sir John Franklin commanding the expedition.

'All well.

'Party consisting of two officers and six men left the ships on Monday, 24th May, 1847.

(Signed) 'WM. GORE, Lieutenant.

CHAS. F. DES VŒUX, Mate.'

"There is an error in the above document, namely, that the *Erebus* and *Terror* wintered at Beechey Island in 1846-47: the correct dates should have been 1845-46; a glance at the date at the top and bottom of the record proves this, but in all other respects the tale is told in as few words as possible of their wonderful success up to that day, May, 1847.

"We find that, after the last intelligence of Sir John Franklin was received by us (bearing date of July, 1845) from the whalers in Melville Bay, his expedition passed on to Lancaster Sound and entered Wellington Channel, of which the southern entrance had been discovered by Sir Edward Parry in 1819. The *Erebus* and *Terror* sailed up that strait for one hundred and fifty miles, and reached in the autumn of 1845 the same latitude as was attained eight years subsequently by H.M.S. *Assistance* and *Pioneer*. . . . Having accomplished this, they returned southward from latitude 77° north, which is at the head of Wellington Channel, and re-entered Barrow's Strait by a new channel between Bathurst and Cornwallis Island."

Thus in his first season Franklin had accomplished more

than almost any previous navigator; and it must have been with cheerful feelings and bright anticipations that the crews went into winter-quarters at Beechey Island in 1845-46. The results attained were the exploration of Wellington and Queen's Channels, and the addition to our charts of extensive lands on either hand.

"In 1846 they proceeded to the south-west, and eventually reached within twelve miles of the north extreme of King William's Land, when their progress was arrested by the approaching winter of 1846-47. That winter seems to have passed without any serious loss of life; and when in the spring Lieutenant Gore leaves with a party for some special purpose, and very probably to correct the unknown coast-line of King William's Land, between Point Victory and Cape Herschel, those on board the *Erebus* and *Terror* were all well, and the gallant Franklin still commanded.

"But, alas! round the margin of the paper upon which Lieutenant Gore in 1847 wrote those words of hope and promise, another hand had subsequently written the following words:—

"April 25, 1848. H.M. ships *Terror* and *Erebus* were deserted on the 22nd April, five leagues N.N.W. of this, having been beset since 12th September, 1846. The officers and crews, consisting of 105 souls, under the command of Captain F. R. M. Crozier, landed here in lat. 69° 37' 42" N., long. 98° 41' W. Sir John Franklin died on the 11th June, 1847; and the total loss by death in the expedition has been to this date nine officers and fifteen men.

(Signed.)

'F. R. M. CROZIER,
Captain and senior officer.
And start (on) to-morrow,
26th, for Back's Fish River.

(Signed.)

JAMES FITZJAMES,
Captain H.M.S. *Erebus*.'

"This marginal information was evidently written by

Captain Fitzjames, excepting only the note stating when and where they were going, which was added by Captain Crozier.

"There is some additional marginal information relative to the transfer of the document to its present position (namely the site of Sir James Ross's pillar), from a spot four miles to the northward, near Point Victory, where it had been originally deposited by the *late* Commander Gore. The little word *late* shows that he too, within a twelve-month, had passed away.

"In the short space of twelve months how mournful had become the history of Franklin's expedition; how changed from the cheerful 'all well' of Graham Gore! The spring of 1847 found them within ninety miles of the known sea, off the coast of America; and to men who had already in two seasons sailed over 500 miles of previously unexplored waters, how confident must they have felt that that forthcoming navigable season of 1847 would see their ships pass over so short an intervening space! It was ruled otherwise. Within a month after Lieutenant Gore placed the record on Point Victory, the much loved leader of the expedition, Sir John Franklin, was dead; and the following spring found Captain Crozier, upon whom the command had devolved, at King William's Land, endeavouring to save his starving men, 105 souls in all, from a terrible death, by retreating to the Hudson's Bay territory up the Back or Great Fish River."

So sad a tale was never told in fewer words. There is something deeply touching in their extreme simplicity, and they show in the strongest manner that both the leaders of this retreating party were actuated by the loftiest sense of duty, and met with calmness and decision the fearful alternative of a last bold struggle for life, rather than perish without effort on board their ships; for we well know that the *Erebus* and *Terror* were only provisioned up to July, 1848.

A second record deposited also by Lieutenant Gore, in May, 1847, was also found a few miles southward upon the south side of Back Bay, but it afforded no additional information. It was a duplicate of the Point Victory record, and shows that Gore and Des Vœux merely left them under cairns, without adding further particulars at the time of depositing: their attention was probably directed to a more important matter, the completion of their discovery of the North-west Passage. This record had not been opened by the retreating crews in 1848; when found by Hobson, it was soldered up as when taken from the ship on the 24th of May, 1847.

"It is remarkable that both these papers state the ships to have wintered in 1846-7 at Beechey Island! So obvious a mistake would hardly have been made had any importance been attached to these documents. They were soldered up in thin tin cylinders, having been filled up prior to the departure of the travellers; consequently, the day upon which they were *deposited* was not filled in. But already the papers were much damaged by rust—a very few more years would have rendered them wholly illegible.

"When the record left at Point Victory was opened, to add thereto the supplemental information which gives it its chief value, Captain Fitzjames (as may be concluded by the colour of the ink) filled in the date, 28th of May, when the record was originally deposited. The cylinder containing this record had not been soldered up again; I suppose they had not the means of doing so; it was found on the ground amongst a few loose stones which had evidently fallen along with it from the top of the cairn. Hobson removed every stone of this cairn down to the ground, and rebuilt it.

"Brief as these records are, we must needs be content with them: they are perfect models of official brevity. No log-book could be more provokingly concise. Yet, that *any record at all* should be deposited after the abandonment

of the ships, does not seem to have been at first intended, and we should feel the more thankful to Captains Crozier and Fitzjames, to whom we are indebted for the invaluable supplement, and our gratitude ought to be all the more sincere when we remember that the ink had to be *thawed*, and that writing in a tent during an April day in the arctic regions is by no means an easy task.

"Before moving forward from that known position, however, they seem to have reflected upon the importance of leaving there information as to their route. They must have felt that their countrymen were seeking and would seek for them, until some clue was obtained; and that such definite points as Simpson's cairn at Cape Herschel and James Ross's cairn at Point Victory (between which lay the only unexplored portion of the North-west Passage) would be examined as instinctively as McClure and Kellett made for the well-known sandstone rock-beacon at Melville Island, to seek and to deposit information. This is the only explanation I can offer of their having sent to Sir James Ross's pillar in 1847, and of their taking such pains in 1848 to seek out the exact position where it stood, there to erect a cairn five or six feet high, and place their record in it.

"A great quantity and variety of things lay strewed about the cairn, such as even in their three days' march from the ships the retreating crews found it impossible to carry farther. Amongst these were four heavy sets of boat's cooking stoves, pickaxes, shovels, iron hoops, old canvas, a large single block, about four feet of a copper lightning conductor, long pieces of hollow brass curtain rods, a small case of selected medicines containing about twenty-four phials, the contents in a wonderful state of preservation; a dip circle by Robinson, with two needles, bar magnets, and light horizontal needle, all complete, the whole weighing only nine pounds; and even a small sextant, engraved with the name of 'Frederic Hornby,' lying beside the cairn without its case. The coloured eye-shades of the sextant

had been taken out, otherwise it was perfect; the movable screws, and such parts as come in contact with the observer's hands, were neatly covered with thin leather, to prevent frost-bite in severe weather.

"The clothing left by the retreating crews of the *Erebus* and *Terror* formed a huge heap four feet high; every article was searched, but the pockets were empty, and not one of all these articles was marked,—indeed sailors' warm clothing seldom is. Two canteens, the property of marines, were found, one marked '88 C°. Wm. Hedges,' and the other '89 C°. Wm. Heather.' A small pannikin made out of a two-pound preserved-meat tin had scratched on it 'W. Mark.'

"These abandoned superfluities afford the saddest and most convincing proof that here—on this spot—our doomed and scurvy-stricken countrymen calmly prepared themselves to struggle manfully for life."

We have given these exhaustive quotations regarding the discovery made by Lieutenant Hobson, from a sense of its importance. The Franklin mystery was now solved, as satisfactorily as it is ever likely to be.

Lieutenant Hobson continued his search until within a few days' march of Cape Herschel without finding any trace of the wreck or of natives. He left full information of his important discoveries for Captain M'Clintock, so that when returning northward by the west shore of King William Island, he had the advantage of knowing what had already been found.

Soon after leaving Cape Herschel Captain M'Clintock found the traces of natives become less numerous and less recent, and after rounding the west point of the island they ceased altogether. The western extremity of King William's Island was reached on the 29th of May. Captain M'Clintock named it after Captain Crozier, the gallant leader of the "Forlorn Hope" of which Hobson had just gained tidings.

"From Cape Crozier," says Captain M'Clintock, "the coastline was found to turn sharply away to the eastward; and early in the morning of the 30th of May we encamped alongside a large boat—another painful relic which Hobson had found and examined a few days before, as his note left here informed me; but he had failed to discover record, journal, pocket-book, or memorandum of any description.

"A vast quantity of tattered clothing was lying in her, and this we first examined. Not a single article bore the name of its former owner. The boat was cleared out and carefully swept, that nothing might escape us. The snow was then removed from about her, but nothing whatever was found.

"This boat measured twenty-eight feet long, and seven feet three inches wide; she was built with a view to lightness and light draught of water, and evidently equipped with the utmost care for the ascent of the Great Fish River. She had neither oars nor rudder, paddles supplying their place; and as a large remnant of light canvas, commonly known as No. 8, was found, and also a small block for reeving a sheet through, I suppose she had been provided with a sail. A sloping canvas roof, or rain-awning, had also formed part of the equipment. She was fitted with a weather cloth nine inches high, battened down all round the gunwale, and supported by twenty-four iron stanchions, so placed as to serve likewise for rowing-tholes. There was a deep-sea sounding line, fifty fathoms long, near her, as well as an ice grapnel; this line must have been intended for river work as a track-line. She had been originally 'carvel' built; but for the purpose of reducing weight very thin fir planks had been substituted for the seven upper streaks, and put on 'clinker' fashion.

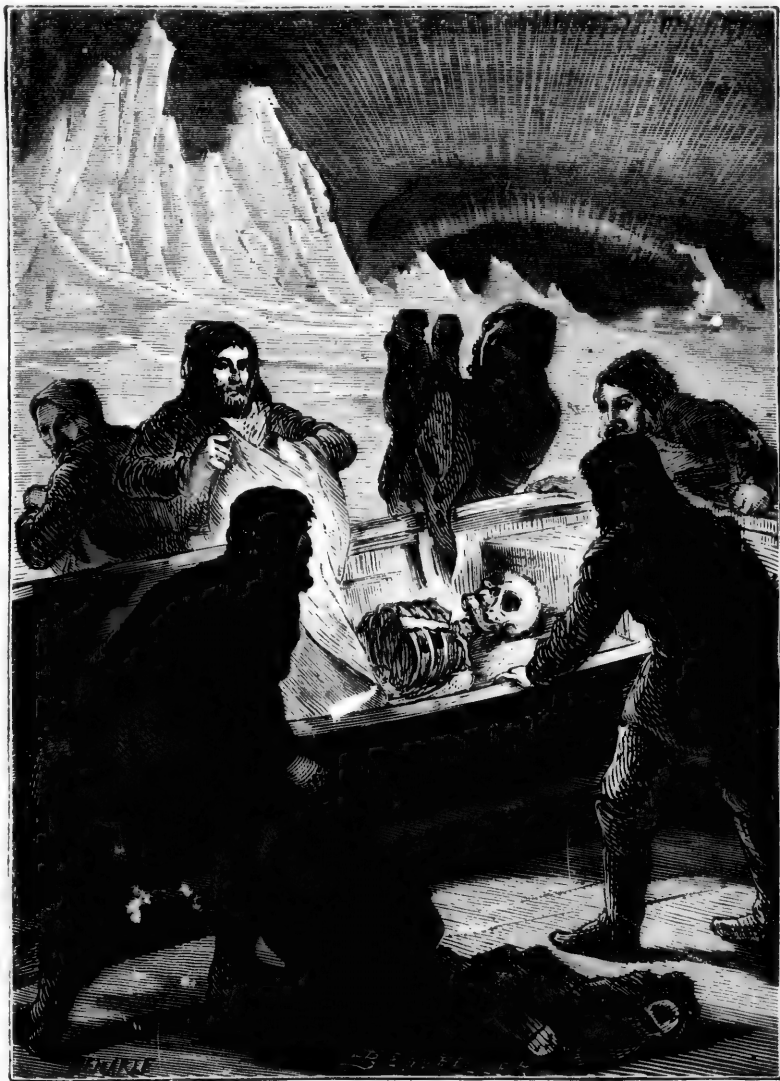
"The only markings about the boat were cut in upon her stern; besides giving her length, they indicated that she was built by contract, numbered 61, and received into Woolwich dockyard in April, 184-, the fourth figure to the

right hand was lost, as the stern had been reduced as much as possible to lessen her weight; from this cause part of the Roman numerals indicating her length were also lost.

"In the boat there was that which transfixed us with awe—portions of two human skeletons. One was that of a slight young person; the other of a large, strongly made, middle-aged man. The former was found in the bows of the boat, but in too disturbed a state to enable Hobson to judge whether the sufferer had died there; large and powerful animals, probably wolves, had destroyed much of this skeleton, which may have been that of an officer. Near it we found the fragment of a pair of worked slippers, of which I give the pattern, as they may be identified. The lines were white, with a black margin; the spaces white, red, and yellow. They had originally been eleven inches long, lined with calf-skin with the hair left on, and the edges bound with red silk ribbon. Besides these slippers there were a pair of small strong shooting half-boots.

"The other skeleton was in a somewhat more perfect state; it lay across the boat, under the after-thwart, and was enveloped with cloths and furs. This would seem to have been the survivor of the two men whose remains were lying in the boat. Close beside it were found five watches; and there were two double-barrelled guns—one barrel in each loaded and cocked—standing muzzle upwards against the boat's side. It may be imagined with what deep interest these sad relics were scrutinised, and how anxiously every fragment of clothing was turned over in search of pockets or pocket-books, journals, or even names. Five or six small books were found, all of them scriptural or devotional works, except the 'Vicar of Wakefield.'

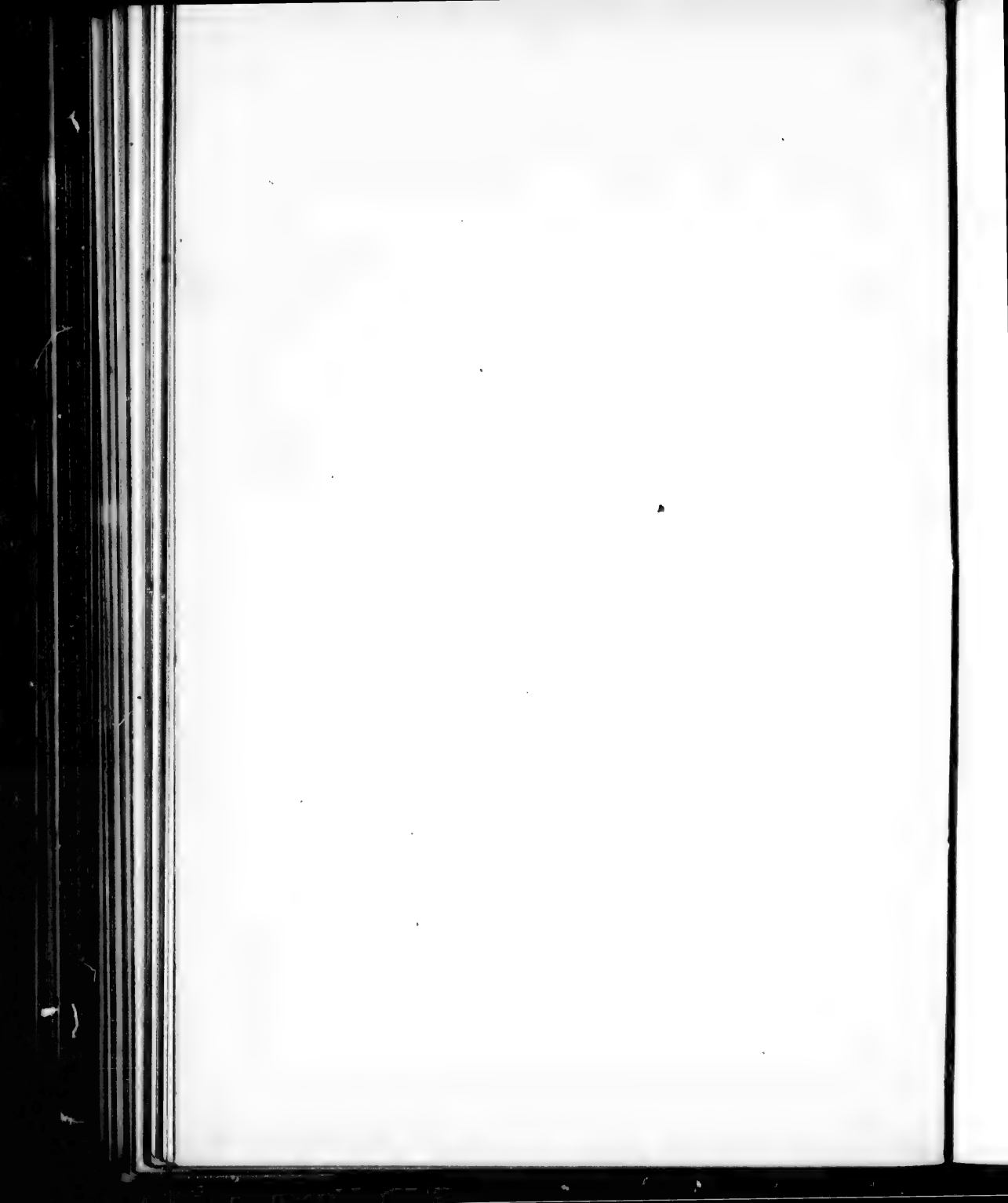
"Amongst an amazing quantity of clothing there were seven or eight pairs of boots of various kinds—cloth winter boots, sea boots, heavy ankle boots, and strong shoes. I noted that there were silk handkerchiefs—black, white, and figured—towels, soap, sponge, tooth-brush, and hair-combs;



A STARTLING DISCOVERY.

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macintosh gun-cover, marked outside with paint A 12, and lined with black cloth. Besides these articles we found twine, nails, saws, files, bristles, wax-ends, sail-makers' palms, powder, bullets, shot, cartridges, wads, leather cartridge-case, knives—clasp and dinner ones—needle and thread cases, slow-match, several bayonet scabbards cut down into knife-sheaths, two rolls of sheet lead, and, in short, a quantity of articles of one description and another truly astonishing in variety, and such as, for the most part, modern sledge-travellers in these regions would consider a mere accumulation of dead weight, of little use, and very likely to break down the strength of the sledge-crews.

"The only provisions we could find were tea and chocolate; of the former little remained, but there were nearly forty pounds of the latter. These articles alone could never support life in such a climate, and we found neither biscuit nor meat of any kind.

"In the after-part of the boat we found eleven large spoons, eleven forks, and four tea-spoons, all of silver. Of these twenty-six pieces of plate, eight bore Sir John Franklin's crest, the remainder had the crests or initials of nine different officers, with the exception of a single fork, which was not marked; of these nine officers, five belonged to the *Erebus*—Gore, Le Vesconte, Fairholme, Conch, and Goodsir. Three others belonged to the *Terror*—Crozier (a tea-spoon only), Hornby, and Thomas. I do not know to whom the three articles with an owl engraved on them belonged, nor who was the owner of the unmarked fork; but of the owners of those we can identify the majority belonged to the *Erebus*.

"Of the many men, probably twenty or thirty, who were attached to this boat, it seems most strange that the remains of only two individuals were found, nor were there any graves upon the neighbouring flat land; indeed, bearing in mind the season at which these poor fellows left their ships, it should be remembered that the soil was then frozen

hard as rock, and the labour of *quarrying* a grave very great indeed.

"I was astonished to find that the sledge was directed to the N.E., exactly for the next point of land for which we ourselves were travelling!

"The position of this abandoned boat is about fifty miles—as a sledge would travel—from Point Victory, and therefore sixty-five miles from the position of the ships; also it is seventy miles from the skeleton of the steward, and 150 miles from Montreal Island; it is, moreover, in the depth of a wide bay, where by crossing over ten or twelve miles of very low land a great saving of distance would be effected, the route by the coast-line being about forty miles.

"A little reflection led me to satisfy my own mind, at least, that this boat was *returning to the ships*. In no other way can I account for two men having been left in her, than by supposing the party were unable to drag the boat farther, and that these two men, not being able to keep pace with their shipmates, were therefore left by them, supplied with such provisions as could be spared, to last them till the return of the others from the ships with a fresh stock.

"I need hardly say that throughout the whole of my journey along the shores of King William's Land, we all kept a most vigilant look-out for any appearance of the stranded ship spoken of by the natives; but our search for her was utterly fruitless!"

On the 5th of June Captain M'Clintock reached Point Victory without having found anything further. The clothing and other articles there were again examined for documents, note-books, etc., without success. A record was placed in the cairn, and another buried ten feet due north from it.

"When continuing my homeward march," says Captain M'Clintock, "and as nearly as I could judge $2\frac{1}{2}$ or $2\frac{3}{4}$ miles to the north of Point Victory, I saw a few stones placed in

line, as if across the head of a tenting-place, to afford some shelter; here it was, I think, that Lieutenant Gore deposited the record in May, 1847, which was found in 1848 by Lieutenant Irving, and finally deposited at Point Victory. Some scraps of tin vessels were lying about; but whether they had been left by Sir James Ross's party in May, 1830, or by the Franklin Expedition in 1847 or 1848, is uncertain.

"Here ended my own search for further traces of our lost countrymen. Hobson found two other cairns, and many relics between this position and Cape Felix. From each place where any trace was discovered the most interesting of the relics were taken away."

Captain M'Clintock reached the ship on the 19th of June, five days after Lieutenant Hobson.

On the 28th of June Captain Young and his party returned, having completed their portion of the search, by which the insularity of Prince of Wales Land was determined, and the coast line intervening between the extreme points reached by Lieutenants Osborn and Browne were discovered; also between Bellot Strait and Sir James Ross's farthest in 1849, at Four River Bay.

Fearing that his provisions might not last out the requisite period, Captain Young had sent back four of his men, and for forty days journeyed on through fogs and gales with but one man and the dogs, building a snow hut each night; but few men could stand so long a continuance of labour and privation, and its effect upon Captain Young was painfully evident.

Lieutenant Hobson was unable to stand without assistance upon his return on board; he was not in good health when he commenced his long journey, and the sudden severe exposure brought on a serious attack of scurvy; yet he also most ably completed his work: and such facts clearly evince the unflinching spirit with which the object of the voyage was pursued.

Our explorers were now at length all on board again. As there were some slight cases of scurvy, all the treasured resources of Burton ale, lemon juice, and fresh animal food were put into requisition, so that in a comparatively short time all were restored to sound health.

During their sojourn in Port Kennedy they were twice called upon to follow a shipmate to the grave. Mr. George Brands, engineer, died of apoplexy on the 6th of November, 1858; he had been out deer shooting several hours that day, and appeared in excellent health.

On the 14th of June, 1859, Thomas Blackwell, ship's steward, died of scurvy; this man had served in two of the former searching expeditions.

The summer proved a warm one. Captain M'Clintock was able to start upon his homeward voyage on the 9th of August, and although the loss of the engine-driver in 1857, and of the engineer in 1858, left him with only two stokers, yet with their assistance, he was able to control the engines and steam the ship up to Fury Point.

For six days they lay there closely beset, when a change of wind removing the ice, the voyage was continued almost without interruption to Godhavn, in Disco, where they arrived on the 27th of August, and were received with great kindness by Mr. Olick, inspector of North Greenland, and the local authorities.

The two Esquimaux dog-drivers were now discharged, and on the 1st of September our successful discoverers sailed for England, where they arrived on the last day of the month.



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CHAPTER XVIII.

IN SEARCH OF FRANKLIN (*continued*), AND THE DISCOVERY OF THE NORTH-WEST PASSAGE.

THE *ENTERPRISE* AND THE *INVESTIGATOR* LEAVE ENGLAND IN 1850—THE TWO SHIPS PART COMPANY—THE *INVESTIGATOR* MEETS THE *POLO*—THE *HERALD* IN SIGHT—"LAND HO!"—PARENTHETICAL PARAGRAPHS—FRIENDLY ESQUIMAUX—PETTY THEFTS—PARDONABLE FIBS—UNFRIENDLY DEMONSTRATIONS—FIRE-WATER—THE SHIVERING TRICK—THE FIRST WINTER—A SLEDGE JOURNEY—THE NORTH-WEST PASSAGE DISCOVERED—AN ADVENTURE FOR CAPTAIN MCCLURE—SPRING NAVIGATION—WINTERING IN MERCY BAY—SHORT COMMONS—A SLEDGE EXPEDITION TO WINTER HARBOUR—CAPTAIN MCCLURE LEAVES A RECORD THERE—THE RECORD FOUND BY LIEUTENANT MECHAM OF SIR E. BELCHER'S SQUADRON—BEWARE OF MEDICINE BOTTLES—LIEUTENANT PIM ARRIVES AT THE *INVESTIGATOR*—A JOYFUL WELCOME—PLANS AND PROSPECTS—A MEDICAL SURVEY—ABANDONING THE *INVESTIGATOR*—RETURN TO ENGLAND—REWARDS AND HONOURS—WHO DISCOVERED THE NORTH-WEST PASSAGE—WHAT BECAME OF CAPTAIN COLLINSON AND THE *ENTERPRISE*—THE *PANDORA* EXPEDITION—ARCTIC VETERANS—DEATH OF LADY FRANKLIN—RETURN OF THE *PANDORA*—A MONUMENT TO FRANKLIN.

IN any narrative clearness is not always secured by adhering to the order of time. For this reason we now take up the remarkable voyage of Sir Robert McClure, which ended in the discovery of the long-sought North-west Passage.

The arctic discovery squadron of Sir John Ross was no sooner returned from its perilous operations of 1848 and 1849, than Government determined to re-equip the vessels, that they might resume the search after Franklin by way of Behring's Strait.

On the 10th of January, 1850, the *Enterprise* and *Investigator* set sail from the Thames. On board the *Enterprise* was Captain Richard Collinson, senior officer and

leader of the expedition. Commander Robert Le Mesurier McClure was in command of the *Investigator*. They left Portsmouth on the 20th of the month, with a fair and fresh wind.

The two vessels soon parted company, but after rounding Cape Forward the *Investigator* found the *Enterprise* at anchor in Fortescue Bay. The two ships during all the voyage had seldom been sixty miles apart, and they had crossed the equator within thirty-five miles of each other without meeting. Such are the not unusual accidents on the highway of the sea. On the 19th of April the two ships again parted company during a gale, and they never met again.

For the present we shall follow the fortunes of the *Investigator*. The equator was passed going northwards, on the 15th of June. At the end of the month they ran through the western isles of the Sandwich group, and anchored, gladly enough, on the 1st of July, outside the reefs of Honolulu harbour. Here additional stores were obtained, and abundant supplies of fruit and vegetables were purchased.

On the 4th of July the explorers were ready for the polar voyage. They sailed away and made rapid progress, crossing the arctic circle on the 29th of July. Soon after they fell in with the *Plover*, dépôt ship, then commanded by Commander Moore.

On the 31st of July the vessel was prepared for falling in with the ice: the crow's-nest was elevated to the mast-head; whale-lines and anchors were placed at hand, ready for heaving or tracking the ship through loose ice; and ice-chisels, saws, ladders, and all the many articles of equipment peculiar to arctic service were placed on deck.

The *Herald*, Captain Kellett, now hove in sight. This ship went cruising about Behring's Strait in the hope of falling in with the squadron of Sir John Franklin, should either of his ships have accomplished the passage from the

Atlantic to the Pacific. The *Herald* likewise was useful in adding materially to our geographical knowledge of this neighbourhood. Captain Kellett had the preceding year made an important discovery of an extensive land north and-north-west of Behring's Strait. In his despatches to England he thus tells of the discovery :—

"At 9.40 on the 14th of August," he says, "the exciting report of 'Land ho!' was made from the mastheads, and both were soon crowded.

"In running a course along the pack towards our first discovery, a small group of islands was reported on our port beam, a considerable distance within the outer margin of the ice.

"The pack here was not so close as I found it before. Lanes of water might be seen. *Still more distant than this group a very extensive and high land was reported*, which I had been watching for some time, whilst anxiously awaiting a report from some one else. There was a fine clear atmosphere, except in the direction of this extended land, where the clouds rolled in numerous immense masses, occasionally leaving the lofty peaks uncapped, where could be distinctly seen columns, pillars, and very broken peaks, characteristic of the higher headlands in this sea. . . .

"From the time land was reported until we hove-to under it we ran fifty miles directly for it. At first we could not see that the pack joined it, but as we approached the island we found the pack to rest on the island, and to extend from it as far as the eye could reach to the east-south-east. . . .

"We left the ship with two boats. The ship kept off and on outside the thickest part of the loose ice, through which the boats were obliged to be very careful in picking their way, on the S.E. side, where I thought I might have ascended. We reached the island, and found running on it a heavy sea; the first lieutenant, however, landed, having backed his boat in until he could get foothold, without

swimming, and then jumped overboard. I followed his example. We hoisted the union jack, and took possession in the name of her most gracious majesty Queen Victoria.

"The extent we had to walk over was not more than thirty feet. . . . With the time we could spare, and our materials, the island was perfectly inaccessible to us. This was a great disappointment, as from its summit, which is elevated above the sea 1400 feet, much could have been seen, and all doubt set aside. . . .

"It becomes a nervous thing to report a discovery of land in these regions without actually landing on it, but as far as a man can be certain, who has one hundred and thirty pair of eyes to assist him, and all agreeing, I am certain we discovered an extensive land. I think these peaks are a continuation of the range of mountains seen by the natives of Cape Jakan, coast of Asia, and mentioned by Baron Wrangel."

The preceding paragraphs have been parenthetical. We return to the *Investigator*, still in company with the *Herald*. It was now a question whether the *Investigator* should wait for the appearance of the *Enterprise* or go on alone. It was decided to do the latter.

The two ships parted company. The *Investigator* had not proceeded far on her way when Captain Kellett signalled, "Had you better not wait forty-eight hours?" The reply was characteristic. "Important duty! Cannot. Upon my own responsibility."

On the 2nd of August the first ice was met with, and immense herds of walruses were seen basking upon the loose masses. At midnight on the 5th of the month our explorers rounded the north-west extremity of the American continent, and "began their progress towards the eastward, and towards home."

On the 8th of August, when close to Point Pitt, about 120 miles east of Point Barrow, the master, Mr. Court, was sent on shore to erect a cairn. He fell in with three

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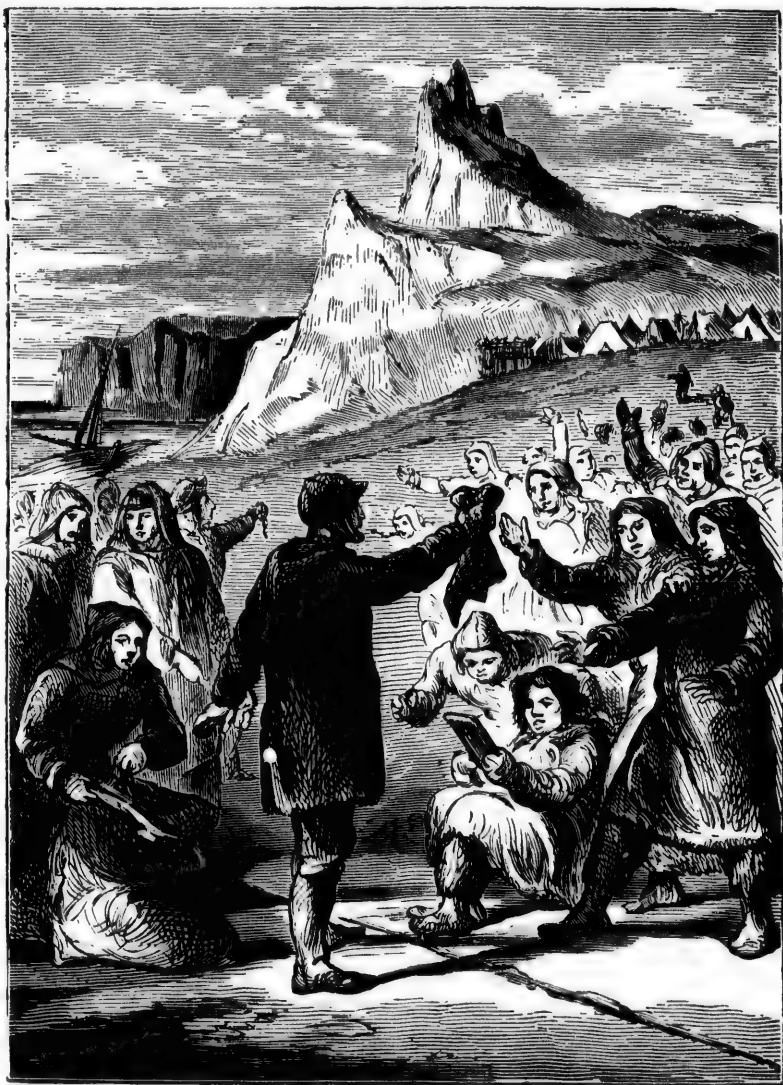
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Ice World Adventures.]

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Esquimaux, and communication was readily established with them. They formed portion of a petty tribe resident in the neighbourhood, who also proved friendly.

"This tribe," says Osborn, "were a stalwart set, but the men had hideously disfigured themselves by labrets in the lower lip, most of them having two apertures on either side of the mouth half an inch wide, into which those disgusting ornaments were thrust. The women might have been good looking, according to the standard of thoroughbred Mongolian beauty, and some were perceptibly tattooed about the chin, but it was barely perceptible, any more it must be added, than the natural colour of their faces from an accumulation of dirt. General obesity prevailed in this arctic family, and they seemed to be in possession of stores of meat, as they offered to supply it for barter if the ships would wait. Thieving, performed in the most artless manner, though not altogether without skill, appeared their principal accomplishment. Whilst Captain McClure was on one occasion serving out some tobacco as a present, he felt a hand in his trousers' pocket, and on looking down found a native actually, while receiving with one hand, picking his pocket with the other."

The *Investigator* continued working along the coast, so close to the land as to allow the natives to be constantly visiting the ship, and to ensure a close and careful search for any signs of Franklin's crews having passed. Knives and other articles were distributed amongst the natives, and every care was taken to leave sure signs of the ship having passed that way.

"The name of the ship was stamped upon the knives," says Osborn, "and cut with a diamond upon the looking-glasses that were given away; and Captain McClure, by way of preventing the people from obliterating the name from the knife-blades by sharpening or polishing them, told them that the letters there engraved would be a charm to make the hunters fortunate as long as they remained—one



of Dr. Paley's justifiable fibs, that in such a case every one will allow to have been pardonable."

A party of natives one day succeeded in obtaining an interview with the *Investigator* by hanging out the rather original ensign of a pair of sealskin trousers from the top of a pole. After exchanging the usual signs of peace, by holding up hands on either side, and by a general chorus of Timouh! or Peace, the more affectionate salutation of rubbing noses was gone through, and cheerfully too, for these Esquimaux, wonderful to state, happened to be this time pleasantly clean. Through the aid of Mr. Mierching, a Moravian missionary, who accompanied the ships in the character of interpreter, the natives informed the Investigators that they had never before seen a European; and they promised to take care of any who should ever come that way.

These people barter their furs with the natives westward of them for Russian products; but, remote as they are, few articles ever reach them, for even a knife was an object of the greatest possible delight and wonder. Their summer residence and hunting-grounds were on the sterile islands lying off the coast; their winter lodges were a short distance inland upon the main.

On the 14th of August the *Investigator* had reached $148^{\circ} 17' W.$, and the navigation became very difficult. On the 24th some native huts were observed near Point Warren. Captain McClure landed, but the reception by the Esquimaux was anything but friendly.

When confidence was at last established, our explorers learned through the interpreter that this tribe was at war with its neighbours, and had no communication with the Indians of the Mackenzie River.

"When asked why they did not trade with the white men up the big river, the reply was, they had given them Indians a water which had killed a great many of them and made others foolish, and they did not want to have any of it."

"From this tribe Captain McClure heard of two boats having been to Cape Warren from the westward, and having returned again; and he was for some time rather puzzled at a story they told him, of a white man having been killed and buried in this neighbourhood. To the inquiry of when it had taken place, all that could be learned was, that 'it might have been last year, or perhaps when the narrator was a child!' an Esquimaux mode of dealing with dates not a little perplexing.

"This story evidently referred to the death and burial of a man near this place, in one of Sir John Richardson's early journeys from the Mackenzie to the Coppermine River. Captain McClure, not having been supplied with all modern books of arctic discovery, was not aware of this circumstance.

"Although the natives offered to show where this body was interred, it was not until next day that circumstances admitted of an examination being made in the locality pointed out; and then it was without any success, although the ruined remains of a couple of drift-wood huts, so well described by Sir John Richardson in his journey through Prince Rupert's Land, were there to excite curiosity and afford grounds for conjecture."

The Investigators reached Cape Bathurst on the 31st of August. Here the Esquimaux were very numerous. They were busily engaged in whaling. A humorous incident happened here which is worth repeating.

"A constant exchange of garments went on between the seamen and officers on the one side, and the natives on the other; but one Esquimaux, more knowing than the rest, hit upon an ingenious plan to obtain clothing without giving a *quid pro quo*. He went to several individuals of the *Investigator's* company, commencing with the commander, and pretended to be suffering from excessive cold. His teeth chattered, and his whole frame shook so, that compassion was immediately aroused, and a Guernsey frock

given him; then he felt better; but watching an opportunity, the rogue would slip it off, stow it away in his kayak, and then return to obtain a fresh one. At last, however, an old quartermaster, who had been watching him with some degree of amusement, flew into a passion at the fellow trying the same trick on with him, called him '*a Jew*,' and threatened to knock his head off, accompanying his threat with a demonstration from a large horny fist which the Esquimaux understood better than the profuse volley of adjectives that rolled out at the same time over the quartermaster's quid."

The *Investigator* left Cape Bathurst and pushed ahead. On the 4th of September fires were observed on shore which proved to be volcanoes. The 11th of the month brought with it the first signs of approaching winter. The vessel was made fast to a floe. On the 15th the ice began to drive towards Barrow's Strait.

On the 16th of September our explorers still made slow progress in the same direction, and on the 17th September, 1850, reached their most advanced position, in latitude $73^{\circ} 10' N.$, and longitude $117^{\circ} 10' W.$, about *thirty miles* from the waters of that series of straits which, under the names of Melville, Barrow, and Lancaster, communicate with Baffin's Bay. "At this tantalising distance the ship ceased to drift, and the ice appeared to have reached a point beyond which some unknown cause would not allow it to proceed. The heavy pack of Melville Strait ice lying across the head of the channel was supposed to be the reason of the ice of Prince of Wales Strait ceasing to move on to the north-east; and the impassable nature of the pack in the same direction in the following year confirmed this hypothesis."

Captain McClure decided to run the risk of wintering in the pack. The ship drifted about for some time exposed to great peril; but on September the 30th it became stationary, in latitude $72^{\circ} 50' N.$, and longitude $117^{\circ} 55' W.$ The pale sun now swept across the sky in a daily diminishing

arc, and his rays had ceased to impart warmth. The housing was spread over the ship, and everything was made secure for the winter.

"Every evening, after work was over, the after part of the lower deck was converted into a temporary stage, on which the 'clever dogs' of the crew performed, danced, sang, or recited, for the amusement of those who were less accomplished; and the roars of laughter and lighthearted jokes passing among them bore good evidence that neither nips, frostbites, nor hairbreadth escapes preyed upon the spirits of any of the audience."

Preparations were now made to despatch a sledge expedition to the northward to reach Barrow Strait, and assure themselves of the existence of a North-west Passage. On the 21st of October Captain McClure set out with a sledge manned by six men, and commanded by the active and indefatigable master Mr. Court. The ship was left in charge of Lieutenant Haswell.

The journey was a comfortless one. At the close of the first day the captain and his men had a truly frugal meal: a pint of tepid water apiece, into which a little oatmeal was thrown. Their supper on the following day consisted of one pint of melted snow and a piece of frozen pemmican.

On the 23rd great difficulties were encountered. The autumnal snow had accumulated heavily on the surface of the young ice-fields and weighed them down, causing the sea water to flow through sufficiently to make the under part of the snow almost as tenacious as clay. The men were greatly tormented by thirst, but every handful of snow which they thrust into their mouths augmented rather than assuaged their sufferings. The snow contained more or less of the salt of the sea water.

"About noon one of the best men of the party became exhausted, and two others were frost-bitten. Captain McClure then stopped to give them the noon-day meal of water and frozen pemmican, but the latter they did

not taste, for thirst had quite overcome hunger. When they had drunk all the allowance of water that the day's fuel would thaw, they again trudged on until dark, when the tent was pitched, and their rough meal and rougher bed prepared."

The morning of the 26th of October, 1850, was fine and cloudless. With feelings which it would be difficult adequately to describe, Captain McClure and his party started before sunrise to obtain from an adjacent hill a view of that sea which connected their discoveries with those of Sir Edward Parry. The hill, which they named Mount Observation, was six hundred feet above the sea level. They reached the top, and then awaited with impatience the increase of light which would reveal the long sought for North-west Passage from the Atlantic to the Pacific Ocean.

"As the sun rose," says Lieutenant Osborn, "the panorama slowly unveiled itself. First the land called after H.R.H. Prince Albert showed out on an easterly bearing, and from a point, since called after the late Sir Robert Peel, it evidently turned away to the east, and formed the northern entrance to the channel upon that side.

"The coast of Banks Land, on which the party stood, terminated at a low point about twelve miles farther on, thus forming a part of, and connecting itself with, that land, the loom of which had been so correctly reported and so well placed on our charts by Sir Edward Parry's expedition, thirty-three years before. Away to the north, and across to the entrance of Prince of Wales Strait, lay the frozen waters of Barrow, or, as it is now called, Melville Strait, and raised as our explorers were at an altitude of six hundred feet above its level, the eyesight embraced a distance which precluded the possibility of any land lying in that direction between them and Melville Island.

"The *North-west Passage* was discovered. All doubt as to the existence of a water communication between the two

oceans was removed ; and it now only remained for Captain McClure, his officers, and men, to perfect the work by traversing the few thousand miles of known ground between them and their homes."

Our explorers encamped that night on Cape Lord John Russell. A mimic bonfire was kindled in commemoration of the discovery, and an extra glass of grog was served out by the leader.

Just at the end of the return journey Captain McClure had an adventure which might have terminated seriously. On the 30th of October, being certain that he knew the position of the *Investigator*, he left the sledge, intending to push on so as to have a warm meal ready for his party on their arrival. When six miles from the ship a heavy mist overtook him, and night came on. He struggled on awhile, falling heavily and repeatedly on the broken ice.

"I now," he says, "climbed on a mass of squeezed-up ice, in the hope of seeing my party, should they pass near, or of attracting the attention of some one on board the vessel by firing my fowling-piece. Unfortunately, I had no other ammunition than what it was loaded with ; for I had fancied, when I left the sledge, that the two charges in the gun would be all I should be likely to require. After waiting for an hour patiently, I was rejoiced to see through the mist the glare of a blue light, evidently burnt in the direction in which I had left the sledge. I immediately fired to denote my position, but my fire was evidently unobserved, and, both barrels being discharged, I was unable to repeat the signal. My only hope now rested upon the ship answering ; but nothing was to be seen, and although I once more saw, at a greater distance, the glare of another blue light from the sledge, there seemed no probability of my having any other shelter for the night than that the floe afforded.

"Two hours elapsed. I endeavoured to see the face of my pocket-compass by the light of a solitary lucifer match

which happened to be in my pocket; but in this hope I was cruelly disappointed, for it fizzed and went out, leaving me in total darkness. It was now half-past eight; there were eleven hours of night before me, a temperature 15° below zero, bears prowling about, and I with an unloaded gun in my hands. The sledge-party might, however, reach the ship, and, finding I had not arrived, search would be made and help be sent; so I walked to and fro upon my hummock until I suppose it must have been eleven o'clock, when that hope fled likewise.

"Descending from the top of the slab of ice on which I had clambered, I found under its lee a famous bed of soft dry snow, and, thoroughly tired, I threw myself upon it and slept perhaps three hours, when, upon opening my eyes, I found that the mist had cleared away, and that the stars and aurora borealis were shining in all the splendour of an arctic night. Although unable to see the islands or the ship, I wandered about the ice in different directions until daylight, when I found I had passed the *Investigator* four miles."

A few hours after Captain McClure's arrival on board, the sledge party reached the *Investigator*, and great was the joy of all the crew at the glorious news they brought.

It may give some idea to the uninitiated in sledge travelling of the severe nature of the duty, if we quote the following extract from Captain McClure's journal:—

"The weight brought back to the ship was 793 pounds, being 100 more than when we started. This was occasioned by the accumulation of ice upon furs, tent, blankets, and sledge, in consequence of the vapour thrown off by our bodies and cooking apparatus. And, strange as it may seem, the whole consumption of food during nine days among eight men, independently of chocolate and spirits, amounted to but eighteen pounds of pemmican, thirty-one pounds of biscuits, and two pounds of oatmeal; a consumption almost incredible, and only to be accounted for

by the crew being every night too exhausted, after their day's exertion, to care for anything else but water; but this article was not to be obtained except by thawing it."

The winter of 1850-51 fortunately did not prove very severe, and the spring found all on board ready for spring service. Various sledging parties were sent out, but no traces of the passage of ships or of civilized man appeared in any direction. Lieutenant Haswell fell in with Esquimaux, but obtained no information from them; Lieutenant Cresswell coasted three sides of Baring's Land, but equally without success as to the main object of their voyage.

On the 14th of July, 1871, the *Investigator* was once more afloat, and recommenced her battle with the elements in the endeavour to shape a north-easterly course, and force her way to Barrow's Straits. Till the 16th of August the struggle was continued with varied success, when the vessel drifted with the ice for fifteen miles to the south-west, whilst the pack could be seen extending in one unbroken line to the eastward. Under these circumstances, although twenty-five miles only from the entrance to Barrow's Strait, Captain McClure relinquished the attempt, and resolved upon trying it from the north-west by circumnavigating Baring's Land.

In this he unfortunately failed, after a perilous struggle with the ice. After a series of marvellous escapes the ship was run into a well-sheltered spot on the 29th of September. There our explorers cast anchor, giving to this harbour of refuge the descriptive name of Mercy Bay.

Newly escaped from imminent danger, Mercy Bay was a welcome resting place, but the reality of their condition soon forced itself upon them. They had reached, by the efforts of a whole season, only a position rather north of the one occupied the preceding winter! They had been almost two years from England, and their provisions had been calculated for little more than three years.

Under these circumstances, Captain McClure decided to

put the whole ship's company upon two-thirds of the then navy allowance, since that period considerably increased.

On these painful details, it is, however, unnecessary to dilate; and a pretty good idea of the scanty fare all were on may be conceived from the following description of the mode in which the gun-room officers lived:—

“Their stock was all finished; they were all on ship's allowance like the men, and, like them, adopted the system of each in turn being cook or carver for the mess. The carver's share consisted in getting the *last* portion out of the eight into which the food had to be divided—a method which insured, we need hardly say, the utmost impartiality on the part of the carver, the other members helping themselves to their shares before him. The rations for the day were given out every morning; and each ate it, at his own discretion or inclination, at either breakfast or dinner. They had, in fact, but one meal per diem; for the breakfast, if it deserved the name, consisted of a cup of the weakest cocoa and a small portion of the small allowance of bread; the rest of the bread, and half a pound of salt meat, containing a good proportion of bone, with just enough preserved vegetable to swear by, constituted the other meal. There was a cup of weak tea in the evening; but few were able to save anything to eat with it.”

This meagre allowance was only raised on two special occasions. On the anniversary of the discovery of the North-west Passage an abundant repast was spread for all; and again on Christmas Day, after enjoying a plentiful dinner, they toasted their friends at home.

As spring advanced there was very little inducement for travelling parties; they could only go over again the ground surveyed the year before. They had no strength now to throw away. Hunting, however, was much engaged in. It was equally beneficial both for health and spirits, and led to many adventures. A veteran sergeant of marines, for example, was attacked by musk bulls.

After firing away all his ammunition, and even the "worm" of his gun, he despatched his last adversary by firing the ramrod through his head. One officer, on another occasion, was nearly surrounded by wolves; and another, having lost his reckoning in an impenetrable fog, found his way back to the ship by no other token than the direction of the wind blowing on his cheek.

One journey, however, was undertaken, and it was of such importance that Captain McClure himself commanded the party. Its destination was Winter Harbour, Melville Island, where Captain Parry had wintered in 1819-20. Here he hoped to meet with information, if not assistance, from England. The explorers reached Winter Harbour on the 28th of April, and found neither vessel nor provisions nor news there.

Disappointed, but not desponding, they left at Winter Harbour a record of their doings, and returned to the *Investigator*.

All that season the ship stuck fast, and by the 24th of August the lead of water had closed, and all hope of getting free for another year was at an end.

We must now ask the reader to turn back to the account of Sir Edward Belcher's expedition, which left England in the spring of 1852, to rescue the *Investigator* as well as the *Enterprise*. He will there see that two of the ships of that expedition—the *Resolute*, Captain Kellett, and the *Intrepid*, Commander M'Clintock—proceeded, about the close of August, towards Melville Island. (See page 228.)

At the end of September a sledge party from Captain Kellett's ship, arrived at Winter Harbour. Lieutenant Meham, who commanded it, happened to inspect more narrowly than usual a famous mass of sandstone, on which Parry had caused his ship's name to be engraved. He could scarcely believe his eyes when he discovered a document on the top telling of the discovery of the North-west Passage and the position of the *Investigator*.

All on board Captain Kellett's squadron waited impatiently for the spring of 1853, when it would be possible to send a sledge party to the successful ship. Lieutenant Bedford Pim was told off for the agreeable duty of communicating with Captain McClure.

In the meantime gloom was settling down upon our brave adventurers in the *Investigator*. Preparations had been made for the abandonment of the ship by the most weakly of the crew. The sledges were ready, and the slender store of provisions was packed. Just then the first death on board since leaving England took place. "It was occasioned," says Osborn, "by the thoughtlessness of the poor fellow himself, who, by way of a joke, went into the surgery and drank off the washings of several medicine bottles." All on board, of course, were in the lowest possible spirits.

The 6th of April dawned. And here we shall quote from Captain McClure's journal:—

"While walking near the ship, in conversation with the first lieutenant upon the subject of digging the grave for the man who died yesterday, and discussing how we could cut a grave in the ground whilst it was so hardly frozen—a subject naturally sad and depressing—we perceived a figure walking rapidly towards us from the rough ice at the entrance of the bay. From his paces and gestures we both naturally supposed at first that he was some one of our party pursued by a bear, but as we approached him doubts arose as to who it could be. He was certainly unlike any of our men; but recollecting that it was possible some one might be trying a new travelling dress, preparatory to the departure of our sledges, and certain that no one else was near, we continued to advance. When within about two hundred yards of us, this strange figure threw up his arms, and made gesticulations resembling those made by Esquimaux, besides shouting, at the top of his voice, words which, from the wind and the intense excite-

ment of the moment, sounded like a wild screech; and this brought us both fairly to a standstill. The stranger came quietly on, and we saw that his face was as black as ebony, and really at the moment we might be pardoned for wondering whether he was a denizen of this or the other world; and had he but given us a glimpse of a tail or a cloven hoof we should assuredly have taken to our legs; as it was we gallantly stood our ground, and had the skies fallen upon us we could hardly have been more astonished than when the dark-faced stranger called out,—

“‘I’m Lieutenant Pim, late of the *Herald*, and now in the *Resolute*. Captain Kellett is in her at Dealey Island!’

“To rush at and shake him by the hand was the first impulse, for the heart was too full for the tongue to speak. The announcement of relief being close at hand, when none was supposed to be even within the arctic circle, was too sudden, unexpected, and joyous for our minds to comprehend it all at once. The news flew with lightning rapidity, the ship was all in commotion; the sick, forgetful of their maladies, leaped from their hammocks; the artificers dropped their tools, and the lower deck was cleared of men: for all rushed for the hatchway to be assured that a stranger was actually among them, and that his tale was true. Despondency fled the ship, and Lieutenant Pim received a welcome which he will never forget.”

A short time after Lieutenant Pim’s dog-sledge with two men arrived, and long and eager were the questionings which ensued. Captain McClure decided on going at once to see Captain Kellett, “and making arrangements with him for having all his sickly hands sent to Dealey Island, and thence home, whilst he endeavoured to carry the *Investigator* back to England, by waiting in her through another summer and winter, that of 1853-54, before abandoning her and retreating to Melville Island.”

Captain Kellett, as senior officer, decided that a medical survey of the crew of the *Investigator* should take place

before any definite arrangement was made. The survey was fatal to the hopes of the resolute leader. The ship had, therefore, to be abandoned.

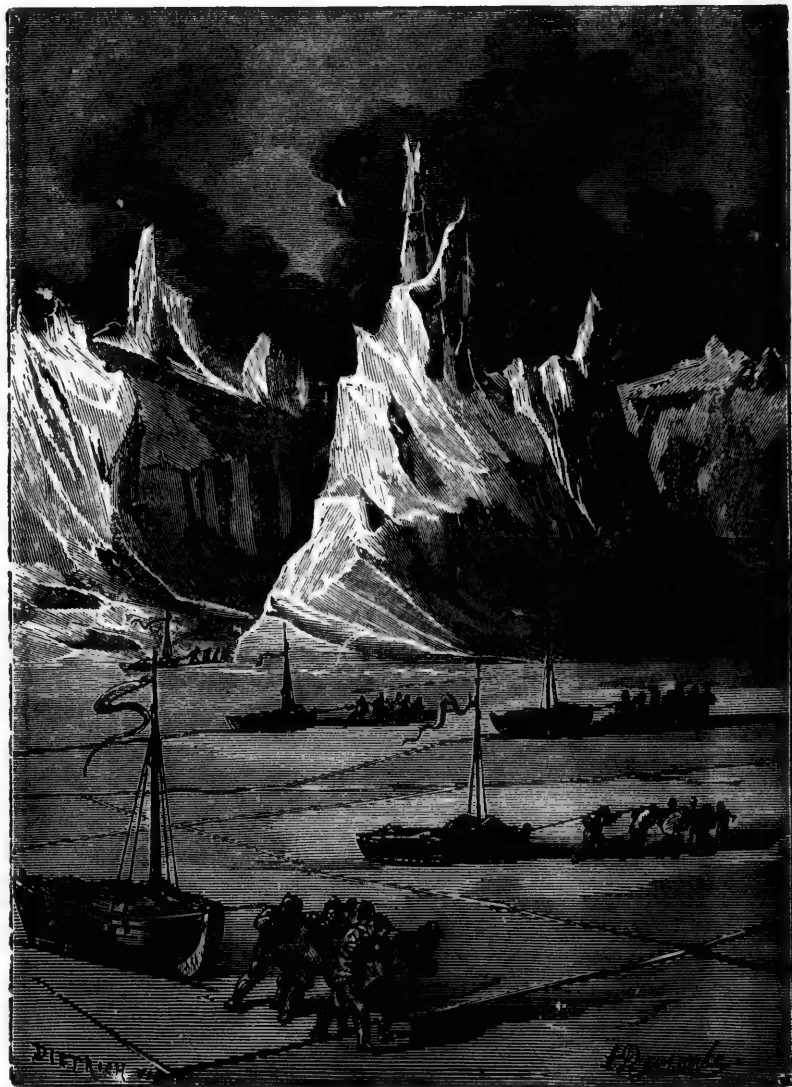
"Their last duty, and that a painful one, was to erect a neat tablet over the graves of their three shipmates who had died in the Bay of Mercy"—for two had been struck down since the sailor who died of a joke; "and that done, on the 3rd of June, 1853, the *Investigator's* crew hoisted the colours to the mast-head of their dear, gallant bark, and turned their backs upon her as sorrowfully as they would have done on an old, well-tried friend in his extremity."

The Investigators reached the *Resolute* and the *Intrepid* on the 17th of June. Their troubles were not at an end. But for the abandonment of these ships, and the extraordinary conclusion of Sir Edward Belcher's expedition, the reader must refer to Chapter xv.

On the 28th of September, 1854, the Investigators landed in England. A court-martial went through the usual form of inquiring into the loss of H.M.S. *Investigator*, and most honourably acquitted Captain McClure, his officers, and men from any blame on her account, and added the highest encomiums upon the gallantry and zeal exhibited by all; yet, in a public point of view, the ship's company generally felt that few honours were awarded to them in comparison with the sufferings they had so nobly borne. Captain McClure was shortly afterwards knighted by the queen.

On the meeting of parliament, a select committee of the House of Commons met, to consider the reward due to those who had discovered and achieved the North-west Passage.

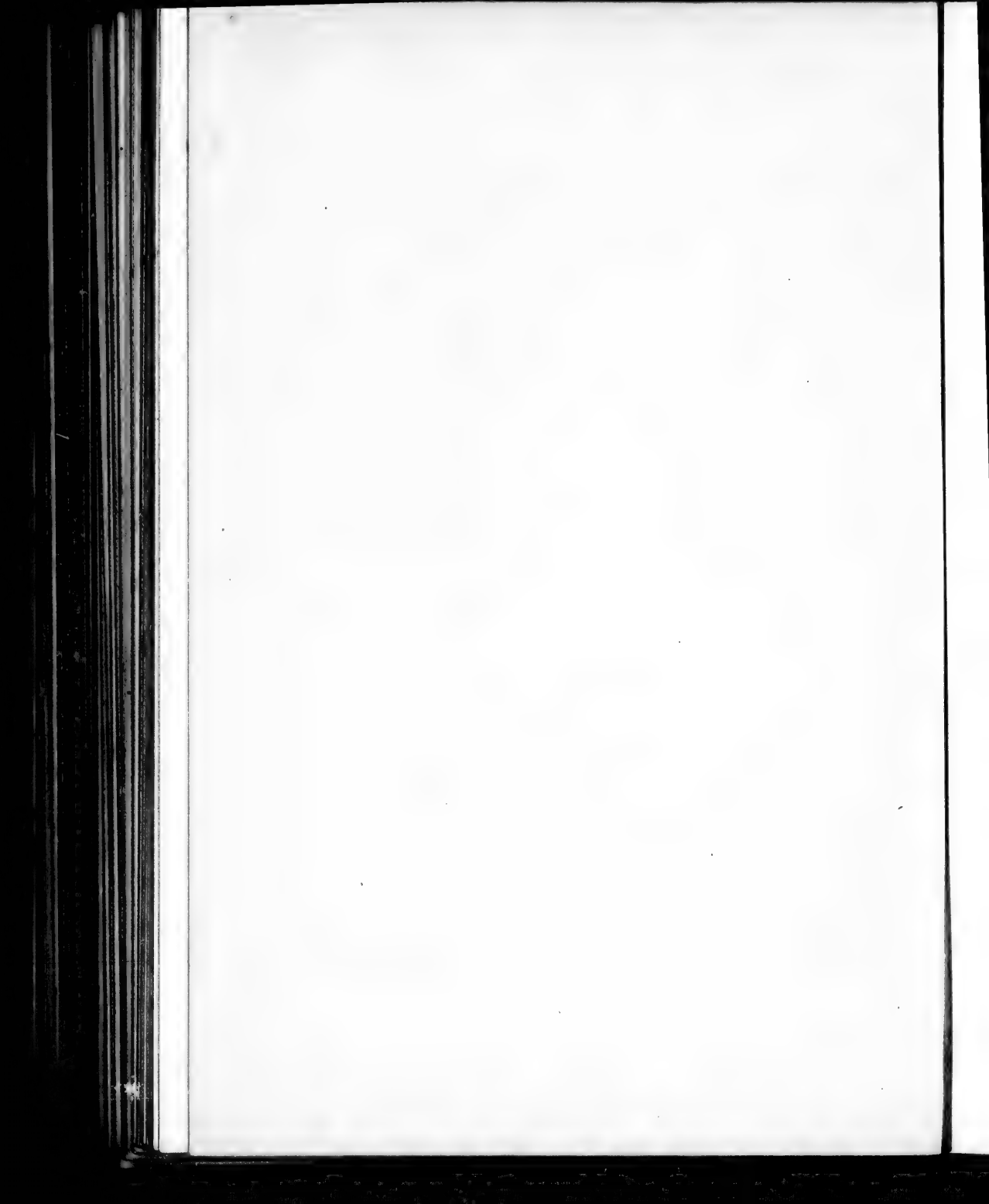
"But," says Sherard Osborn, "in the interim between the arrival of Captain McClure in England and the meeting of parliament, news had arrived that Dr. Rae had obtained certain information of a party from Franklin's missing squadron having passed the intervening unknown



ABANDONING THE "INVESTIGATOR."

Ice-World Adventures.

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space which lay between Barrow Strait and the coast of North America. The duty of the committee became a somewhat more responsible one, in so far as it had to award the priority of discovery to Franklin or McClure, before the papers of the former came to hand.

"Lady Franklin, in a most able and touching letter, called the earnest attention of the honourable committee to the impossibility of arriving at any certain decision in the absence of all evidence as to Franklin's claim to the priority; and they therefore qualified the award by stating, very justly, that Captain Sir Robert McClure, in *H.M.S. Investigator*, had discovered a North-west Passage, and successfully carried his followers from the Pacific to the Atlantic Ocean by that route, exhibiting himself an example of unflinching perseverance, courage, and zeal, which his officers and men nobly followed, and, to use the words of the honourable committee, 'that they performed deeds of heroism which, though not accompanied by the excitement and the glory of the battle-field, yet rival, in bravery and devotion to duty, the highest and most successful achievements of war!' Accordingly a reward of £10,000 was granted to the officers and crew of *H.M.S. Investigator*, as a token of national approbation, and acting upon a suggestion thrown out by the honourable committee, all this gallant ship's company eventually received from their Queen a medal, which they will assuredly treasure far more than any pecuniary reward."

"Franklin," says the same writer, "and his hundred and forty followers were the forlorn hope of the North-west Passage. By the sacrifice of their lives they have secured to us their countrymen an honour that perhaps might otherwise never have been won; for it was in seeking for them that Captain McClure and his gallant officers and crew succeeded, for the first time in the annals of the world, in passing from the Pacific to the Atlantic Ocean. In the eloquent words of Lord Stanley and Sir Edward

Parry, when addressing Captain Cresswell, who first brought the intelligence to England in 1853: 'It was a triumph that would not be valued the less highly because it was not stained by bloodshed; a triumph which was not embittered by any single painful or melancholy reminiscence; a triumph not over man but over nature; a triumph which inflicts no injury, and which humiliates no enemy; a triumph not for this age alone, but for posterity—not for England only, but for mankind.'

"The North-west Passage would never have been discovered but for the devotion of Franklin, his officers, and men; they each volunteered for that duty, and they fell in the performance of it. The party from the *Erebus* and *Terror* which perished, it appears, at the mouth of the Great Fish River, must have gone down some channel from the neighbourhood of Capes Walker or Bunny in Barrow's Strait, and thus have fallen in adding the great link which connects the known coasts of the Parry Archipelago with that of the American continent. They did not, like the Investigators, achieve the passage by actually passing from ocean to ocean; but it is perfectly possible that at the very moment when Captain McClure stood on the northern coast of Banks' Land, and assured himself of a water-communication between the Pacific and Atlantic Oceans, some lonely survivors of Franklin's expedition may have been watching from King William's Land, that known highway to Behring's Strait, which Dease and Simpson had traversed many years before—a pathway upon whose entrance they yielded up their gallant spirits. Captain McClure and his followers can well afford to surrender cheerfully to the illustrious dead that share of the honour reaped which is their due; and the friends who mourn the loss of those who perished in gallantly endeavouring to perform what the *Investigator* so happily effected, may still point to the chart of the polar regions, and say, '*Si monumentum requiris, circumspice!*'"

It will be observed by the reader that though the problem of the passage was solved, Sir Robert McClure did not find it navigable. But that it is some years open is undoubted, as one may conclude from the drift timber from the Pacific, and the whales with harpoons stuck in them in the Sea of Okhotsk, which have been found in Davis's Strait. But that the passage will prove of the slightest value to the world, few, for long before its discovery, ever believed.

We turn now briefly to notice the career of Captain Collinson in the *Enterprise* after she parted from the *Investigator*, as we noticed several pages back,* on the 19th of April, 1850.

She reached the latitude of Icy Cape as late as the 22nd of September, having made a long and circuitous passage from the Sandwich Islands. The pack ice was fallen in with there. Winter was evidently closing in, and the prospect of rounding Cape Barrow that year was at an end. In obedience, therefore, to the strict injunctions contained in his orders, not to winter in the pack, Captain Collinson bore up for a warmer climate, so as to have his crew and ship ready to resume their labours in the season of 1851.

Winter passed away, and on the 10th of July, 1851, we find Captain Collinson so far on his way as to be leaving Port Clarence in Behring's Strait. He doubled Point Barrow on the 26th, and passed the mouth of the Mackenzie River on the 8th of August. On the 26th they caught sight of Cape Parry, and Cape Erebus was discovered to the northward. "Hauling up close to the land," writes Collinson, "we entered a strait on the 28th, in which on the following day two islets were seen; on landing I found a whale-boat and dépôt of provisions, with a notice of Commander McClure's, dated 15th June, 1851."

At last our explorers were frozen in at a spot on Prince Albert's Land, near the entrance of Prince of Wales

* See page 276.

Strait. When spring came, sledge-exploration was proceeded with, and some important discoveries were made.

It was late in the season before the *Enterprise* got free, and after a short and perilous navigation she was frozen up again. Early in the spring of 1853 the east coast of Victoria Land was explored.

Failing to find any traces worth mentioning of the Franklin expedition, Captain Collinson now thought it prudent to make good his retreat from the polar regions. In August, 1853, the head of the *Enterprise* was turned towards Behring's Strait. But she was destined to spend another winter in the ice. The winter of 1853-54 was passed in Camden Bay. When she got free, the *Enterprise* sailed *via* Hong-Kong for England.

We now pass over an interval of many years, and arrive at the year 1875, when a new Franklin expedition was set on foot. The announcement of it was made just about the time when the *Alert* and the *Discovery* were setting forth on their voyage of exploration towards the North Pole, as we have told in our concluding chapters. It was said that the expense of this new expedition was borne by Lady Franklin and Mr. Gordon Bennett, of the *New York Herald*. The first object of the expedition was to discover more relics of Sir John Franklin and his party; the second, if possible to get through the North-west Passage; botanical and marine research were also to form a prominent part of the explorers' mission. The expedition consisted of the *Pandora*, under the command of Captain Allan Young, who had already distinguished himself in the polar seas; he served with Admiral Sir Leopold M'Clin-tock on board the *Fox*.

The *Pandora* was a smart-looking vessel of 420 tons burden, which had for many years served as a despatch boat in the navy. She was purchased from the Admiralty for special service in the arctic seas. A thorough over-

hauling was given her before she started. Every bolt and rope was replaced, the masts, three in number, were newly spliced, and the yards shortened and re-sailed.

The usual commander's cabin was divided for the accommodation of Captain Allan Young and Lieutenant Lillingston. In each cabin a well-stocked library was placed, and on the walls photographs and landscapes. Amongst the other articles put on board were a quantity of scientific instruments and books sent down from London, and an organ which has a somewhat remarkable history. In one of the early Franklin search expeditions, this organ, a gift of the late Prince Consort, was first taken away to an arctic latitude; since that time it has done duty in four other arctic expeditions, including the voyage of the *Fox*. A silver plate was fixed upon it telling of its adventures, and its musical properties were renovated at a large outlay by Captain Young for this expedition. Outside the captain's cabin, the mess-room of the *Pandora* was situated, and from the four sides of this chamber were constructed cabins for the members of the scientific staff.

Everything that could be thought of as likely to secure the comfort of the crew and the success of the expedition was sent on board. Six strong boats, two whaleboats, snider rifles for seal-hunting, an ice condenser, and the now orthodox crow's-nest, were among her most noticeable fittings.

The vessel carried thirty-two souls all told. Amongst that number were included, besides Captain Allan Young, the following officers:—Lieutenant Lillingston and Dr. Horner, M.R.C.S.,—the latter went not only as medical officer, but also as meteorologist; he took a prominent part in the ambulance service of the Franco-German war, —Lieutenant Pirie, of our navy, and Lieutenant Baynan, of the Dutch navy. The last-named went out as a scientific officer. He is known to have won some distinction in the Acheen War.

The oldest man on the *Pandora* was Tom Florence, captain of the hold, who had been nineteen years "in the business." This veteran of over threescore winters carried with him a silver watch, having inscribed upon it words showing it was the gift of Lady Franklin for services rendered by him in searching for her gallant husband. He was sent out in the *Pandora* at Lady Franklin's request. There were two quartermasters in the *Pandora*, Myles and Timson, both of whom had served for many years in the royal navy; the ship steward was Mr. Edwards, the chief engineer Mr. Ball, and the principal harpooner was a man named Randerson, who had over and over again taken duty in whale ships. Probably the most acclimatised arctic voyager, however, was the cook, Shelton, who had been twenty-seven years away in the polar seas.

The most remarkable man among the petty officers was "Esquimaux Joe," who sailed with Hall in the *Polaris* expedition. He had been specially brought over from America to act as interpreter on board the *Pandora*. In appearance he was more like a native of China than of any other part of the world. To quote the words of one of his comrades, "he knew nine languages; was in England twenty-two years ago; was now about thirty-six years of age; and was now suffering from a cold which he did not expect to get rid of until he found himself in the cold regions."

The course marked out for the *Pandora* was plain enough at starting. She was to proceed to Eliseo, and in expectation of her arriving before the *Alert* and *Discovery* had sailed for the north, she carried letters and papers for their crews. If they had taken their departure, it was intended that the *Pandora* was to take the bags with her and run to Cape York on the other side of Melville Bay. Thence she was to proceed to Carey Islands, rather more than midway between Melville Bay and Smith's Sound, and in about 77° N. latitude. On this island no "post office" or cairn

has existed for many years. Here they were to "deposit" the mails for the arctic expedition, in the hope that they would be found as the *Alert* and *Discovery* returned from the north. After this the *Pandora's* course would depend entirely on circumstances. Should she get through the passage, she might return home by way of China or the west coast of America.

The *Pandora* left Southampton on the 25th of June, looking "exceedingly neat and trim." She carried with her no fewer than a thousand letters and newspapers for the *Alert* and *Discovery*, and three hundred for the *Valorous*.

The same night Captain Young cast anchor in Portsmouth Harbour. It was somewhat out of his course, but he could not leave England without bidding adieu to an old commander and friend in the person of Sir Leopold M'Clintock. At four o'clock in the afternoon of the 26th the *Pandora* left Portsmouth, without any sort of demonstration save the vigorous cheering of the crews of half a dozen men-of-war and the youngsters of a training ship.

Connected with the departure of this expedition there was a tinge of melancholy. For some time, and with a good deal of interest, the event had been anticipated by Lady Franklin, who had hoped that by residing at Bourne-mouth she would be within easy access of Southampton, and thus be able to watch the fitting-out and witness the departure of the ship. She, however, fell seriously ill. The deepest sympathy with the noble-minded lady was expressed by the *Pandora's* crew as the accounts of her condition were conveyed to them just before sailing.

On the 18th of the following month Lady Franklin breathed her last. She had long suffered from failing health, and the last years of her life were passed in almost complete retirement.

The voyager in starting for the arctic seas never knows but that some unforeseen obstacle may bar his progress and prevent the accomplishment of his mission. It was just so

with the *Pandora*. She reached Disco in safety, and, following the track of the *Alert* and the *Discovery*, proceeded to the Carey Islands. She then sailed away west upon a fresh attempt to achieve the North-west Passage.

The vessel wound its way through Lancaster Sound and Barrow Strait, till the celebrated Peel Straits were reached. It was the region explored on foot by Captain Young, when with the *Fox*, in 1859, he wintered at Bellot Strait.

The hopes of the party were great. One hundred and twenty miles sailing due south would bring the vessel to King William's Land, when the course would be easy work. But here once more a brave crew were doomed to disappointment. A solid belt of ice was encountered. The *Pandora* could proceed no farther. It was most tantalizing. Only this belt of ice prevented the accomplishment of the passage. As far as the eye could reach there was no break anywhere.

Captain Young might have wintered there, but he rightly conjectured that the course would not be closed behind him if he made good speed, so he retraced his steps, resolving to attempt the passage another season. On his return voyage he found despatches from Captain Nares of the *Alert* and *Discovery* at Carey Islands, giving good news of the progress of the North Pole expedition. The *Pandora* arrived at Spithead on Saturday, the 16th of October.

Shortly after the death of Lady Franklin and during the absence of Captain Young, a monument was uncovered in Westminster Abbey to the memory of Sir John Franklin. It had been erected at the expense of his devoted widow and bore these lines by the poet-laureate :—

“ Not here: the white north has thy bones; and thou,
Heroic sailor soul,
Art passing on thine happier voyage now
Toward no earthly pole.”

CHAPTER XIX.

ON THE WAY TO THE NORTH POLE.

ADVICE TO HENRY VIII. — SEEKING STRANGE REGIONS — HENRY HUDSON'S FIRST VOYAGE IN 1607 — JONAS POOLE'S VOYAGE IN 1610 — LORD MULGRAVE'S EXPEDITION IN 1773 — AN ADVENTURE WITH A SEA-HORSE — CAPTAIN BUCHAN'S EXPEDITION IN 1818 — PARRY'S ATTEMPT TO REACH THE POLE IN 1827 — THE PROGRAMME OF THE EXCURSION — THE HIGHEST LATITUDE EVER REACHED — DRIFTING SOUTHWARDS — SOME CONSOLATION — DR. HAYES' EXPEDITION IN 1860 — A DIFFICULT JOURNEY — THE MOST NORTHERLY KNOWN LAND — THE VOYAGE OF THE *POLARIS* IN 1871-73 — A CHAPTER OF ACCIDENTS — PICKED UP BY A WHALER.

THE spirit of discovery and foreign enterprise burst forth in England in the reign of Henry VIII., and flourished in full vigour under the foster ing hand of Elizabeth. The first arctic enterprise undertaken solely by Englishmen, of which we have any record, was at the suggestion of Robert Thorne, of Bristol, who is said to have exhorted Henry VIII., "with very weighty and substantial reasons, to set forth a discoverie even to the North Pole," which voyage, as would appear from the Chronicles of Hall and Grafton, actually took place; for they inform us that "King Henry VIII. sent two faire ships well manned and victualled, having in them divers cunning men, to seek strange regions, and so they set forth out of the Thames the 20th day of May, in the 19th yeere of his raigne, which was the yere of our Lord 1527." Hakluyt took great pains to discover who these cunning men were, but all he could learn was that one of the ships was called the *Dominus Vobiscum*, and that a canon of St. Paul's, in London, a great mathematician and wealthy man, went therein himself in person; that having sailed very far

north-westward, one of the ships was cast away on entering into a dangerous gulf, about the great opening between the north parts of Newfoundland and Meta Incognita or Greenland, and the other returned home about the beginning of October: "and this," says Hakluyt, "is all that I can hitherto learne or finde out of this voyage, by reason of the great negligence of the writers of those times, who should have used more care in preserving of the memories of the worthy acts of our nation."

No schemes having the North Pole in view were ventilated again till the beginning of the seventeenth century.

The unfortunate end of Captain Knight's voyage, in 1606, to discover a North-west Passage* did not in the least discourage the merchants of London; they were as intent as ever on finding out a nearer route to Japan and China. Hitherto neither the north-east nor the south-west had held out much hope of success, and it was now resolved to try a new route and steer a course towards the North Pole.

For this enterprise they selected Henry Hudson, an experienced and intrepid seaman, well skilled in the theory as well as practice of navigation, and in the use of nautical instruments. It deserves to be remarked that he is the first of the northern navigators who made observations on the inclination or dip of the magnetic needle. This adventurous navigator, with ten men and a boy, in a small bark, whose name and tonnage have not been left on record, set sail from Gravesend on the 1st of May, 1607.

On the 13th of June Hudson fell in with land ahead and some ice; the weather became foggy, and the sails and shrouds were frozen. The land was high, and the upper part covered with snow; but being several days without an observation, Hudson was doubtful whether it was an island or part of Greenland. It was evidently that jutting part of the east coast of Greenland which lies to the northward of Iceland.

* See page 161, *et seq.*

On the 22nd he was, by observation, in latitude $72^{\circ} 38' N.$, and on the weather clearing up, he found himself about twelve leagues from the land. "It was a mayne high land, nothing at all covered with snow; and the north part of that mayne high land was very high mountaynes, but we could see no snow on them." This land lying in latitude 73° he named Hold with Hope.

From this part of the east coast of Greenland he steered away north-east, hoping to fall in with Newland, as the Dutch called Spitzbergen. He arrived at it on the 27th, and found plenty of ice in the neighbourhood.

After sailing for some distance up a deep fiord or firth, where it was so cold that the shrouds and sails were frozen, the navigators betook themselves again to the ocean. They passed through much ice and drift-wood, and saw plenty of seals, and some bears. One of the latter was killed, and many of the crew were sick, we are told, through eating its flesh unsalted.

Hudson originally intended to pass round the southern extremity of Spitzbergen; but the wind being south and coming into a *green sea*, which he states to be always freest of ice, whereas a *blue sea* is always most pestered with it, he stood to the north, and in $80^{\circ} 23'$ saw the land to the southward. The ship entered a deep bay or sound, at the bottom of which the mate and boatswain went on shore, where they found a pair of morses' teeth, whale bones, deer's horns, and the footmarks of other beasts; they also met with much drift-wood and streams of fresh water. "Here they found it hot on shore, and drank water to cool their thirst, which they also commended."

On the 31st of July, being in want of all manner of necessaries, the weather thick and foggy, and the season being too far advanced to make further discovery that year, Hudson bore up in his little bark for his return home, and passing Bear or Cherry Island, arrived safely in the Thames on the 15th of September.

In 1610, in consequence of the Muscovy Company having taken possession of Cherry Island, the ship *Amitie*, of seventy tons, was fitted out for a voyage of discovery to be made towards the North Pole, either for trade or a passage that way. Jonas Poole, who had commanded on former arctic voyages, was appointed master.

He passed the North Cape on the 2nd of May, "after many storms, much cold, and extreme frosts." He stood on to the north, the ship receiving many a knock from the ice on the way, and came in sight of Spitzbergen. The boat was sent on shore, and as a deer's horn was found on the beach, they named the bay Horn Sound. Leaving this part of the coast, Poole stood first to the westward, then to the northward, and in latitude $77^{\circ} 25'$ found the weather on the 17th of May "very warme and farre temperater" than at the North Cape at the same period of the year. On the 19th, however, he says, "it was very thick fogges, with wind, frost, and snow, and cold, that I thinke they did strive here which of them should have the superioritie." In $78^{\circ} 37'$ he named the headland of a small island Fair Foreland; and here he assures himself "that a passage may be as soone attayned this way, by the Pole, as any unknowne way whatsoever, by reason the sun doth give a great heat in this climate; and the ice that freezeth here is nothing so huge as I have seen in 73 degrees."

On a small island he killed a great number of deer, and gave to the bay the name of Deer Sound; after this they slew several bears, and a multitude of the walrus or sea-horse. "The tenth day," he goes on to say, "I went on shoore and slue five deer, with the which and them that I slue before, I have lengthened out my victuals, blessed be the Creator of the world, which hath not made any part thereof in vaine."

The farthest latitude reached in this voyage was $79^{\circ} 50'$, and to the land he met with there Poole gave the name of Gurnerd's Nose. In this quarter he met with and killed

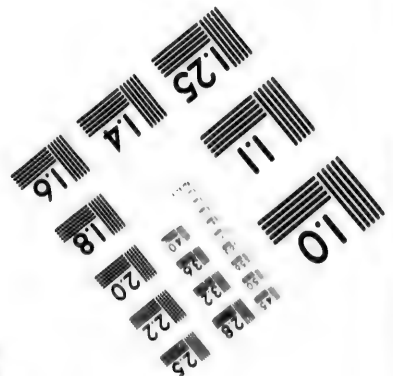
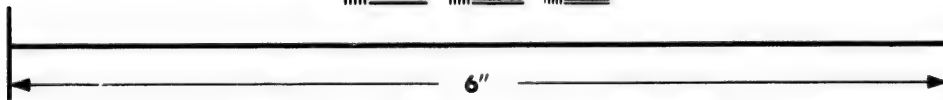
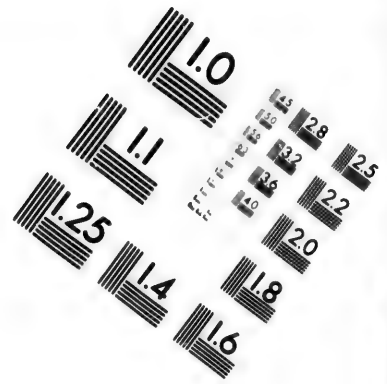
several deer; they were in fine condition, having two and three inches of fat upon them.

Towards the end of July Poole stood to the south, intending to call at Cherry Island, but the ice was so thickly packed that he gave up the attempt, and proceeded homewards, arriving in London on the last day in August.

Little was said after this about the North Pole for more than a hundred and fifty years. About 1770 the Royal Society came to the resolution of applying to the Earl of Sandwich, then first Lord of the Admiralty, to obtain his majesty's sanction for an expedition to be fitted out for the purpose of trying how far navigation might be practicable towards the North Pole. This expedition his majesty directed should be immediately undertaken, "with every encouragement that could countenance such an enterprise, and every assistance that could contribute to its success."

Two ships, the *Racehorse* and the *Curcass*, bombs, as being the strongest, were fixed upon as the most proper for the purpose; the former having on board a complement of ninety men, and the latter eighty, with an additional number of officers. The command of the expedition was given to the Hon. Captain Constantine John Phipps (afterwards Lord Mulgrave), who embarked in the *Racehorse*.

The two ships sailed from the Nore on the 10th of June, 1773. On the 27th they had an observation of the sun at midnight, which gave the latitude to be $74^{\circ} 26'$; and in the evening of that day they reached the latitude of the south part of Spitzbergen with a fair wind, without an increase of cold, and without any appearance of ice or sight of land. A piece of drift-wood, which was fir, was picked up, and found not to be worm-eaten. On the 29th they stood in with the land, which was formed "by high, barren, black rocks, without the least marks of vegetation, in many places bare and pointed, in other parts covered with snow, appearing even above the clouds; the valleys between the high cliffs were filled with snow or ice. This prospect would have



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suggested the idea of perpetual winter, had not the mildness of the weather, the smooth water, bright sunshine, and constant daylight, given a cheerfulness and novelty to the whole of this striking and romantic scene."

On the 5th of July they fell in with the main body of the ice, along which they worked their way to ascertain whether it joined to the land of Spitzbergen, or was so detached as to afford an opportunity of passing in the eastward. But the pilots and officers thought it impracticable to proceed in that direction, and so with great difficulty they worked their way through the looser parts of the ice towards the north-west.

On the morning of the 9th the ice was found to be quite fast to the west, being then in longitude $2^{\circ} 2'$ E. by their reckoning, which was the farthest to the westward of Spitzbergen they ever got on the voyage. Captain Phipps now stood over to the eastward, and on the 13th came to anchor in Vogelsang; a good roadstead near a remarkable point called Cloven Cliff, which is "a bare rock, so called from the top of it resembling a cloven hoof, which appearance it has always worn, having been named by some of the first Dutch navigators who frequented these seas. This rock, being entirely detached from the other mountains, and joined to the rest of the island by a low isthmus, preserves in all situations the same form, and being perpendicular is never disguised by snow."

At length, after much beating about, we find our navigators at the mouth of Waigatz Strait, where some of the officers landed on a low island. They came upon several large fir trees lying on the shore, sixteen or eighteen feet above the level of the sea; some of them, seventy feet in length, had been torn up by the roots, others had been cut down by an axe and notched for twelve-feet lengths; this timber was no ways decayed, or the strokes of the hatchet in the least effaced. The beach was formed of old timber, sand, and whale-bones. The middle of this island was covered with

moss, scurvy grass, sorrel, and a few ranunculuses then in flower. Two reindeer were feeding on the moss, one of which they killed, and they found it fat and of high flavour. On the return of the officers they wounded a sea-horse, which dived immediately and brought up with it a number of others. They all joined in an attack upon the boat, wrested an oar from one of the men, and were with difficulty prevented from staving or oversetting the boat.

On the 30th of July the weather was exceedingly fine and mild and unusually clear. "The scene," says Captain Phipps, "was beautiful and picturesque; the two ships becalmed in a large bay, with three apparent openings between the islands that formed it, but everywhere surrounded with ice as far as we could see, with some streams of water; not a breath of air; the water perfectly smooth; the sea covered with ice, low and even, except a few broken pieces near the edges; the pools of water in the middle of the pieces were frozen over with young ice."

The ships were now beset in the ice; and the pilots, being much farther than they had ever been, and the season advancing, were alarmed at their situation. On the 1st of August the ice began to press in fast; there was not the smallest opening. The latitude was $80^{\circ} 37'$; longitude $19^{\circ} 0' 15''$ E. At last, however, after much trouble, they managed to work the ships to the westward, and on the 10th, the wind springing up to the N.N.E., forced them through a great deal of very heavy ice and into open water. The following day they reached Amsterdam Island, the westernmost point of which is Hakluyt's Headland.

They anchored the same day in Fair Haven.

On the 19th they weighed anchor and again stood out to sea. The season was now so far advanced that fogs and gales might every day be expected. This induced Captain Phipps to turn his face homewards, and on the 25th of September he arrived at the Nore.

Combined with Captain Ross's expedition in 1818, in

search of the North-west Passage, an expedition was sent out under the command of Captain Buchan, with a view of pushing direct to the Pole and passing across it to India. It was argued by the supporters of this undertaking that the failures of Hudson, Fotherly, and Phipps had arisen in consequence of their being entangled in the bays of Spitzbergen; that the production of ice takes place chiefly in the neighbourhood of land, and that if they only kept in the midst of the ocean navigators would find an open sea.

The expedition consisted of the *Dorothea*, Captain Buchan, and the *Trent*, Commander Lieutenant, afterwards Sir John Franklin. It set sail early in the season of 1818, and came in sight of Cherry Island on the 27th of May.

Innumerable difficulties were encountered, and the expedition was battling with the ice to the north-west of the wintry archipelago of Spitzbergen when, on the 30th of July, a sudden gale arose. Captain Buchan was compelled, as the only chance of safety, to "take the ice," that is, to thrust the ships into any opening in the moving masses that could be perceived. In this very hazardous operation the *Dorothea* received so much injury that she was very near sinking. She therefore turned homewards as soon as the storm subsided, and the *Trent*, of course, accompanied her.

The next attempt to reach the North Pole was made in 1827, and by no other than the great arctic explorer Sir Edward Parry.

When disappointed, in 1824-25, in his sanguine expectations of a North-west Passage, Parry did not abandon at once his scheme of northern discovery. It appeared to him possible to arrive at the North Pole by employing light boats and sledges, which might be alternately employed, according as compact fields of ice or open sea interposed in his route. A plan deemed feasible by such men as Parry, Franklin, and Scoresby, necessarily commanded attentive consideration. The Royal Society recommended

it to the Admiralty, who fitted out the *Hecla* for the expedition, and placed her under the command of Captain Parry.

Captain Parry was supplied most amply with whatever could promote the success of this daring expedition and secure every means of comfort compatible with its nature. Two boats, or wagons, intended for either sailing or drawing, were constructed in such a way as to combine the greatest possible strength and lightness. They were formed of a succession of thin planks of tough and pliant timber, with layers of felt and waterproof canvas interposed, and were found to combine strength and buoyancy in a degree which fitted them admirably for the hard work to which they were called. An ample stock was provided of flannel shirts, frocks, drawers, comforters, and thick fur suits to sleep in. The provisions consisted of biscuit, pemmican, cocoa powder, and a small allotment of the strongest rum. The fuel consisted exclusively of spirits of wine.

The start was made from the Thames on the 25th of March, 1827. Captain Parry touched at Hammerfest, in Norway, and arrived on the 12th of May at Hackluyt's Headland, near the north-western extremity of Spitzbergen. He expected to have found a commodious harbour here, but it was blocked up by an impassable barrier of ice. There was nothing for it but to beat along the coast of Spitzbergen in search of a station where the ship could be placed in safety, and might certainly be found on the return of the boats. A whole month, the best part of the season, was consumed in this way. At length a satisfactory lodgment was effected in Hecla Cove, at the bottom of a bay laid down in the Dutch maps under the name of Trewrenberg.

On the 21st of June the adventurers, after the usual salutation of three cheers, got into their boats, and made direct for the great body of the northern ice, which they

entered on the 23rd. The details of this perilous and dreary journey over ocean and ice, and in a sphere beyond that of habitable existence, are few but striking.

"Our plan of travelling," says Captain Parry, "being nearly the same throughout the excursion after we had first entered upon the ice, I may at once give some account of our mode of proceeding. It was my intention to travel wholly at night, and to rest by day, there being, of course, constant daylight in these regions during the summer season. The advantages of this plan, which was occasionally deranged by circumstances, consisted first in our avoiding the intense and oppressive glare from the snow during the time of the sun's greatest altitude, so as to prevent, in some degree, the painful inflammation of the eyes, called snow blindness, which is common in all snowy countries. We also thus enjoyed greater warmth during the hours of rest, and had a better chance of drying our clothes, besides which no small advantage was derived from the snow being harder at night for travelling. This travelling by night and sleeping by day so completely inverted the natural order of things, that it was difficult to persuade ourselves of the reality. Even the officers and myself, who were all furnished with pocket chronometers, could not always bear in mind at what part of the twenty-four hours we had arrived; and there were several of the men who declared, and I believe truly, that they never had been able to distinguish night from day during the whole excursion.

"When we rose in the evening, we commenced our day by prayers; after which we took off our fur sleeping dresses and put on those for travelling. We made a point of always putting on the same stockings and boots for travelling in, whether they had been dried during the day or not; and I believe it was only in five or six instances at the most, that they were not either still wet or hard frozen. This indeed, was of no consequence beyond the discomfort

of first putting them on in this state, as they were sure to be thoroughly wet in a quarter of an hour after commencing our journey; while, on the other hand, it was of vital importance to keep dry things for sleeping in.

"Being 'rigged' for travelling, we breakfasted on warm cocoa and biscuit: and after stowing the things in the boats and on the sledges, so as to secure them as much as possible from wet, we set off on our day's journey, and usually travelled from five to five and a half hours, then stopped for an hour to dine, and then travelled four or even six hours, according to circumstances.

"After this we halted for the night, as we called it, though it was usually early in the morning, selecting the largest surface of ice we happened to be near for hauling the boats on in order to avoid the danger of its breaking up, and coming into contact with other masses, and also to prevent drift as much as possible. The boats were placed close alongside each other, with their sterns to the wind, the snow or wet cleared out of them, and the sails, supported by the bamboo masts and three paddles, placed over them as awnings, an entrance being left at the bow. Every man then immediately put on dry stockings and fur boots, after which we set about the necessary repairs of boats, sledges, or clothes; and after serving the provisions for the succeeding day, we went to supper. Most of the officers and men then smoked their pipes, which served to dry boats and awnings very much, and usually raised the temperature of our lodgings 10° or 15° . This part of the twenty-four hours was often a time, and the only one, of real enjoyment to us; the men told all their stories, and fought all their battles over again, and the labours of the day, unsuccessful as they too often were, were forgotten. We concluded our day with prayers; and having put on our fur dresses, lay down to sleep with a degree of comfort which, perhaps, few persons would imagine possible under such circumstances.

"As soon as we arrived at the end of a floe, or came to any difficult place, we mounted one of the highest hummocks of ice (many of which were from fifteen to twenty-five feet above the sea) in order to obtain a better view around us; and nothing could well exceed the dreariness which such a view presented. The eye wearied itself in vain to find an object but ice or sky to rest upon; and even the latter was often hidden to view by the dense and dismal fogs which so generally prevailed. For want of variety, the most trifling circumstance engaged a more than ordinary share of our attention; a passing gale, or a mass of ice of unusual form, became objects which our situation and circumstances magnified into ridiculous importance; and we have since often smiled to remember the eager interest with which we regarded many insignificant occurrences. It may well be imagined then how cheering it was to turn from this scene of inanimate desolation to our two little boats in the distance, to see the moving figures of our men winding with their sledges among the hummocks, and to hear once more the sound of human voices breaking the stillness of this icy wilderness."

In this painful struggle against the most formidable of the elements, every individual of the party seems to have displayed all that zeal and perseverance which was to be expected from British seamen in an enterprise the success of which would have been so glorious to them. The result, however, did not correspond either with the amount of the means prepared, or the vigour and spirit with which they were employed.

On the 22nd of July they advanced seventeen miles, the greatest distance they had been able to effect in one day. But they then saw that the numerous delays they had encountered were sufficient to destroy all hopes of being able to reach the Pole, which was still five hundred miles distant. They had advanced as far as latitude $82^{\circ} 40'$,

and now limited their ambition to reaching the parallel of 83° ; but just at the time when the state of the ice seemed favourable to their progress, the wind shifted to the north, and drifted them in the opposite direction. When with great labour they had travelled ten or twelve miles over the ice, observations showed that they were four miles to the south of the position which they had occupied on the 22nd, so that the drifting of the snow-fields had carried them fourteen miles to the southward.

It was obviously vain under these circumstances to persist any longer. Our voyagers returned, therefore, and arrived at the ship in Hecla Cove on the 21st of August, after being two months on the ice, completely foiled in their attempt to reach the Pole, and obliged to rest satisfied with the humble consolation that they had, perhaps, penetrated about a degree farther to the north than any previous expedition of complete authenticity.

This was the last of Parry's arctic expeditions. After this he proceeded to New South Wales, where from 1829 to 1834 he occupied the position of resident commissioner of the Australian Agricultural Company. In 1837 he was appointed to organize the mail packet service, then transferred to the Admiralty. Next he filled the post of captain superintendent of the Royal Naval Hospital at Haslar, and finally he was made governor of Greenwich Hospital. He died at Ems, in the summer of 1855.

Within the last few years the project of reaching the Pole has been again revived. "It has been supposed that after passing through the barrier of northern ice infringing on Spitzbergen, the explorer would enter a comparatively iceless sea, and have little difficulty in sailing to the Pole, or until they reached the land-ice surrounding it, in that geographical point is composed of land. The barrier of ice always encountered by ships in about 80° N. is held to be the ice which has drifted south in the summer and autumn from the Pole. In support of this, attention is

called to the open water seen by various whalers and other navigators to the northward."

In 1860, the American explorer Dr. Hayes, who had accompanied Kane, made up his mind to complete the survey of Kennedy's Channel, and if possible to push on to the Pole itself. He set out on board the schooner *United States*.

After several narrow escapes from ice-fields and icebergs, he was at last obliged to take up his winter quarters at Port Foulke, on the Greenland coast, twenty miles to the south of Rensselaer Harbour. As the explorers had an abundant supply of fresh meat, the winter passed without their suffering from the scurvy. Most of the dogs, however, on which Dr. Hayes had relied for his sledge expeditions in the spring, perished from an epidemic which had proved fatal to the teams of Dr. Kane.

Fortunately some fresh dogs were procured from the friendly Esquimaux, and early in April, 1861, Dr. Hayes left the schooner to plunge into the depths of the icy wilderness. Having previously learned that an advance along the Greenland shore was quite impossible, he resolved to cross the Sound, and try his fortune along the coast of Grinnell Land. His own words will best impart an idea of the difficulties he encountered:—

"By winding to the right and left, and by occasionally retracing our steps, we managed to get over the first few miles without much embarrassment, but farther on the track was rough, past description. I can compare it to nothing but a promiscuous accumulation of rocks piled up over a vast plain in great heaps and endless ridges. The interstices between these closely accumulated ice masses are filled up, to some extent, with drifted snow. The reader will readily imagine the rest. He will see the sledges winding through the tangled wilderness, the men and dogs pulling and pushing up their respective loads. He will see them clambering over the very summit of lofty

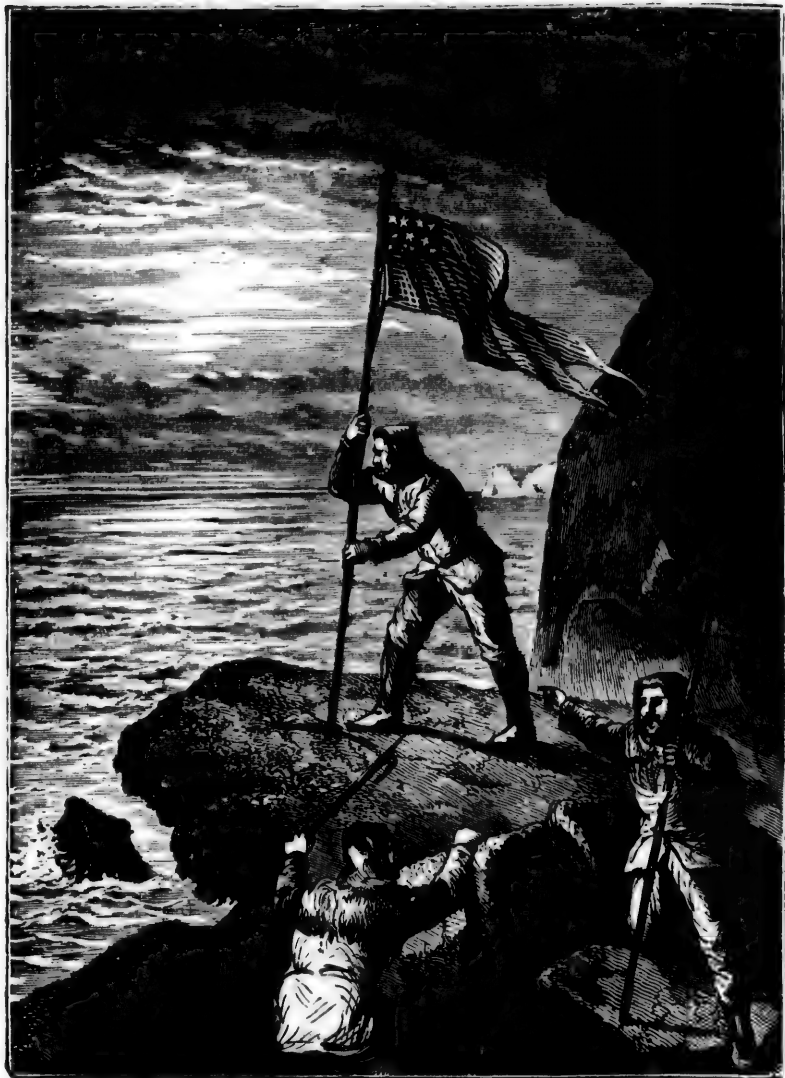
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DR. HAYES IN SIGHT OF THE POLAR SEA.
Ice World Adventures.

[Page 315.]

ridges, and again descending on the other side, the sledge often plunging over a precipice, sometimes capsizing and frequently breaking. The snow-drifts are sometimes a help and sometimes a hindrance. Their surface is uniformly hard, but not always firm to the foot. The crust frequently gives way, and in a most tiresome and provoking manner. It will not quite bear the weight, and the foot sinks at the very moment when the other is lifted. But, worse than this, the chasms between the hummocks are frequently bridged over with snow in such a manner as to leave a considerable space at the bottom quite unfilled; and at the very moment when all looks promising, down sinks one man to his middle, another to the neck, another is buried out of sight; the sledge gives way, and to extricate the whole from this unhappy predicament is probably the labour of hours. It would be difficult to imagine any kind of labour more disheartening, or which would sooner sap the energies of both men and animals."

It is no wonder that after thus toiling on for twenty-five days they were not even half-way across the sound, and that they were all broken down by their labours. But the brave leader of the party was determined not to abandon his enterprise whilst the faintest chance of success remained. He sent the main party back to the schooner, and continued to plunge into the hummocks.

Fourteen days of almost superhuman exertion passed by. At last the sound was crossed! A scarcely less toilsome journey now began along the coast: it was prosecuted with untiring energy till Dr. Hayes, on the 18th of May, reached the border of a deep bay, where farther progress to the north was stopped by cracks and rotten ice. Right before him, on the opposite side of the firth, rose Mount Parry, the lofty peak first seen by Morton in 1854, from the shores of Washington Land; and, farther on, a noble headland, Cape Union—then the most northern known land upon the

globe—stood in faint outline against the dark sky of the open sea.

On the 10th of July, Hayes' ship, the *United States*, broke out of the ice, and finding that to attempt further exploration in such a craft might lead to a repetition of Kane's disaster, or worse, her head was turned towards home, where our explorers arrived without much incident.

We come now to the voyage of the American vessel the *Polaris*, under the guidance of Captain Hall. It proceeded on the glorious path of Kane and Hayes, and was enabled to penetrate into regions which baffled all the efforts of these illustrious discoverers.

"After leaving Tessiusak," ($73^{\circ} 30'$ N. lat.), says Dr. Hartwig, "the most northern Danish settlement in Greenland, on August 24th, 1871, the *Polaris* reached the entrance of Smith's Sound on August 27th, and rapidly advanced through seas which Kane and Hayes had found blocked with ice.

"On August 28th Captain Hall landed on Grinnell Land, passed 80° N. lat., sailed through Kennedy Channel and the newly discovered Robeson Channel, and proceeded on September 3rd as far as $82^{\circ} 16'$, the highest latitude ever yet attained by a ship. From an eminence at this extreme point of their journey Grinnell Land was seen extending towards the north to about latitude 84° (the eye of civilized man has never yet plunged deeper into the arctic regions); numerous herds of musk oxen, as well as traces of inhabitants, were met with, and the climate was decidedly milder than some degrees farther to the south. Thus, step by step, each new expedition through Smith's Sound has brought us nearer to the Pole, and warrants the belief that its discovery is not a visionary hope, but an object fully within the reach of man.

"The Americans wintered in $81^{\circ} 38'$ N. lat., where Captain Hall died on November 8th, 1871. Their return

of the

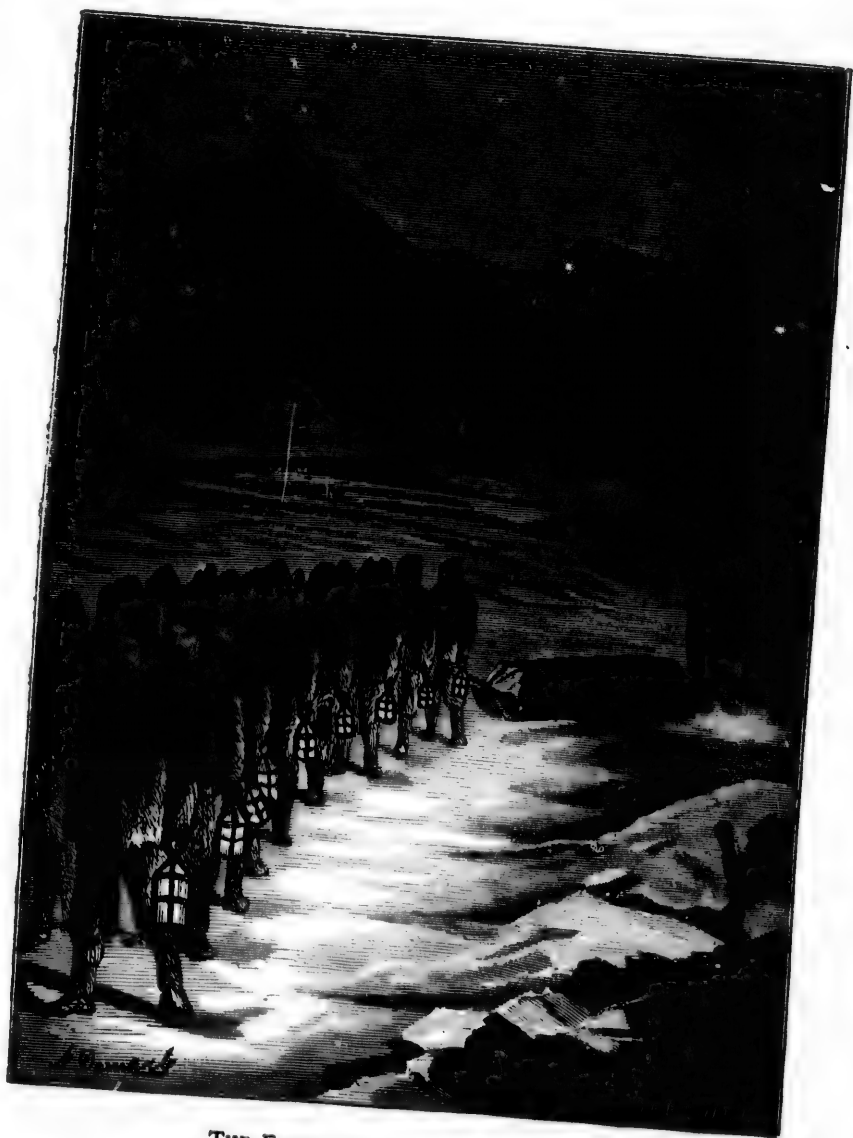
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THE FUNERAL OF CAPTAIN HALL.
Ice World Adventures.]

voyage through Smith's Sound in the following year is full of dramatic interest.

"On October 15th, 1872, the vessel was found to be so seriously damaged that it was determined to land the provisions on Northumberland Island, $77^{\circ} 20' N.$ lat. While this was going on, and half the crew were on the ice, the vessel broke from her moorings, and was speedily carried away out of hail and sight. Nineteen persons were thus left on an ice floe, which drifted them through Baffin's Bay and Davis's Straits, along the coast of Labrador, to $53^{\circ} 1' N.$ lat., near Newfoundland, where they were rescued by a steam whaler, *Tigress*, on April 30th, 1873. During six months and a half they had been exposed to all the rigours of an arctic winter on a slowly floating ice-raft; and perhaps more wonderful still, after this unexampled journey of 1560 nautical miles, they all returned to the United States in perfect health.

"The fate of the party in the *Polaris* was but little better. Forced to beach the ship on the first shore they reached, they spent the winter in huts roughly constructed out of the ship's timbers. Obligated to set out on their voyage homeward in two frail boats, they proceeded with many delays to Melville Bay, where they were beset with ice; and here, after enduring the most fearful hardships, they were picked up on June 23rd by the Scotch whaler *Ravenscraig*, which at the completion of her voyage brought them into Dundee, on the 19th of September."

For the English expedition of 1875 bound for the North Pole, the reader must refer to a future chapter.



ICE ANCHORS.

CHAPTER XX.

THE MAGNETIC POLE DISCOVERED.

SIR JOHN ROSS'S VOYAGE OF 1829-33—A FAVOURABLE VIEW OF GREENLAND—WINTERING IN FELIX HARBOUR—A SHORT LIFE OF FREEDOM—REACHING THE MAGNETIC POLE—SCIENTIFIC OBSERVATIONS—HOISTING THE BRITISH FLAG—ABANDONING THE *VICTORY*—A TEDIOUS JOURNEY—AT SOMERSET HOUSE—HOPES AND FEARS—"A SAIL! A SAIL!"—THE *ISABELLA* OF HULL—SHOWERS OF HONOURS—A SAFE SERVICE.

TEN years after Captain John Ross's first unsuccessful voyage,—of which we have given an account when speaking of English voyages in search of a North-west Passage,—that veteran seaman once more entered the field of arctic exploration. He was desirous, no doubt, to obliterate the recollection of former failure by some worthy achievement. By the munificence of Sir Felix Booth, Bart., the expedition was fitted out. A small Liverpool steamer, the *Victory*, was bought, and the start from England was made on the 23rd of May, 1829. Captain John Ross was accompanied by his nephew, Commander James Ross, afterwards Sir James Ross, who was not only a skilful seaman, but an able naturalist. It was he who, by his well executed sledge journey, made the chief discoveries of the expedition.

In the early part of the voyage various untoward circumstances befel our explorers, including the loss of their topmast. At last, however, they reached Holsteinborg on the west coast of Greenland. Holsteinborg at the time—it was at the close of July—presented a very inviting aspect.

"The island itself," says Sir John Ross, "was a far finer object than our former experience, at an earlier and

perhaps in a worse season, had given us reason to expect on this icy coast, and reminded us in a lively manner of the far fairer lands we had quitted not long before, and the summer which we believed we had left behind. Every practicable part of the surface, even the smallest spot, which was not a precipice or a sea rock, was covered with verdure; while a profusion of wild plants, now in full and luxurious blossom, rendered that a summer-garden which we had expected to find, as we had often done before, a chaos of rugged rocks and cold snow. It was, in truth, a green land, as far as our present situation was concerned: and that green the more striking from the long absence of all but sea and sky, and the desolation of ice and rocks, which if we did not see at the moment, we knew full well lay all around us, as we had amply witnessed it on former occasions."

On the 10th of August the *Victory* entered Prince Regent's Inlet, and on the 13th reached the spot where Parry, on his third voyage, had been compelled to abandon the *Fury*. The ship had been swept away, but her stores and provisions on land were untouched, and the latter were in as good condition as need be.

Cape Parry was reached on the 15th of August. Fogs and drift-ice greatly hindered our explorers, but they moved slowly on, and by about the middle of September our geographical knowledge was enriched by the addition of some 500 miles of newly discovered coast.

Winter now approached, and the *Victory* took refuge in Felix Harbour. The steam engine was voted a nuisance and thrown overboard, and all necessary preparations were made for spending the cold season as comfortably as possible.

During the following spring Commander James Ross set out on a sledge journey which led to the discovery of King William's Sound and King William's Land. On September 17th, after twelve months' imprisonment in the ice, the

Victory got free; but her freedom did not last long. After a hard struggle against currents and drift-ice she again froze fast on the 27th of the same month, only three miles in advance of her former position.

In the next spring James Ross extended the circle of his sledge expeditions, and succeeded in planting the British flag on the site of the Magnetic Pole. "After a rapid march," says Commander Ross, "we reached the calculated place at eight in the morning of the first of June. I believe I must leave it to others to imagine the elation of mind with which we found ourselves now at length arrived at this great object of our ambition.

"The land at this place is very low near the coast, but it rises into ridges of fifty or sixty feet high about a mile inland. We could have wished that a place so important had possessed more of mark or note. It was scarcely censurable to regret that there was not a mountain to indicate a spot to which so much of interest must ever be attached; and I could even have pardoned any one among us who had been so romantic or absurd as to expect that the Magnetic Pole was an object as conspicuous and mysterious as the fabled mountain of Sinbad—that it was even a mountain of iron, or a magnet as big as Mont Blanc."

The necessary observations were at once commenced, and were continued throughout the whole of that and the following day. The most conspicuous results may be stated as follows. The place of the observatory was as near the Magnetic Pole as the limited means possessed by Commander Ross enabled him to determine. The amount of the dip, as indicated by his dipping needle, was $89^{\circ} 59'$, being thus within one minute of the vertical: while the proximity at least of the pole, if not its actual existence where they stood, was further confirmed by the action, or rather by the total inaction, of the several horizontal needles then in his possession. These were suspended in the most delicate manner possible, but there was not one which showed the

slightest effort to move from the position in which it was placed; a fact which every reader must know to be one which proves that the centre of attraction lay at a very small horizontal distance, if any.

"As soon as I had satisfied my mind on the subject," says Sir James Ross, "I made known to the party this gratifying result of all our joint labours; and it was then, amidst mutual congratulations, we fixed the British flag on the spot, and took possession of the North Magnetic Pole and its adjoining territory in the name of Great Britain and William the Fourth. We had abundance of materials for building in the fragments of limestone that covered the beach, and we therefore erected a cairn of some magnitude, under which we buried a canister containing a record of the interesting event, only regretting that we had not the means of constructing a pyramid of more importance, and of strength sufficient to withstand the assaults of time and of the Esquimaux. Had it been a pyramid as large as Cheops, I am not quite sure that it would have done more than satisfy our ambition under the feelings of that exciting day. The latitude of the spot was $70^{\circ} 5' 37''$; longitude, $16^{\circ} 46' 45''$ W."

It is to be observed that the site of the Magnetic Pole is not invariably fixed to one spot, as was thought at the time of this discovery, but shifts from place to place within the glacial zone.

On the 28th of August, 1831, the *Victory* escaped into open water. In a month she had advanced only four miles, and she was then frozen up again on the 27th of September. There seemed no chance of extricating her when the next summer came round, so it was resolved to abandon her, and travel over the ice to Fury Beach, and to make use of the boats' provision and stores lying there, in order to reach Davis's Straits.

On the 29th of May, 1832, the *Victory's* colours were nailed to the masthead, as the last friendly service they

could render to her. Then the officers and crew took leave of the unfortunate little vessel. "It was the first ship," says Ross, "that I had ever been obliged to abandon, after serving in thirty-six, during a period of forty-two years. It was like the last parting with an old friend, and I did not pass the point where she ceased to be visible, without stopping to take a sketch of this melancholy desert, rendered more melancholy by the solitary, abandoned, helpless home of our past years, fixed in immovable ice, till time should perform on her his usual work."

Our explorers set out on their tedious journey, travelling on foot and dragging on sledges the needful amount of provisions. When the party reached the north-east end of North Somerset, they built a canvas house there, dignified by the name of Somerset House, and remained there till the 1st of August fitting up the boats. By that day a considerable extent of open sea was visible. They launched their boats, and, with much difficulty, reached the north of the inlet by the end of the month.

Here they met with disappointment. After several attempts to run along Barrow's Strait, the ice obliged them to haul their boats on shore, and pitch their tents. They waited till the third week of September; but the ice still barred the way, and it was unanimously resolved to fall back on the stores at Somerset House, and spend a fourth long winter within the arctic circle.

Somerset House was reached on the 7th of October. Preparations for winter were made; a snow wall was built round the house, the roof was strengthened with spars and covered with snow, whilst an additional stove was set up.

Scurvy now made its appearance, and several men perished. The situation of the survivors was of the gloomiest. At last another season came round, and they set forth on what might prove their last struggle to reach home.

On the 17th of August they found, to their unspeakable

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delight, that the wide expanse of Barrow's Strait was open to navigation. They pushed on with renewed spirits, and on the night of the 25th rested in a harbour on the eastern shore of Navy Board Inlet.

At four o'clock on the following morning they were roused from sleep by the look-out man announcing a sail, which, viewed through a glass, proved to be a ship. All were presently in motion, and their hopes and fears were variously expressed. But they were detained by calms and light, shifting airs; and a breeze springing up, the vessel made sail with a rapidity which left them hopelessly behind.

About ten, however, they descried another, which seemed at first to be lying-to, but she bore up under all sail, and appeared to be fast leaving them. Happily a calm ensued, and by hard rowing they approached so near that their signals were perceived, when she was seen to heave-to and lower a boat, which made directly towards them.

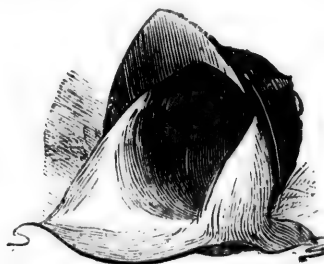
On his arrival, the mate in command asked if they were in distress and had lost their vessel, proffering his aid. He stated, in answer to their questions, that he belonged to the *Isabella*, of Hull, once commanded by Captain Ross, now by Captain Humphreys. On being told that Captain Ross stood before him, his brain was much puzzled, as he declared the captain must be under a mistake, as he had certainly been dead two years. He was soon, however, satisfied of the truth of the intelligence, and returned to the ship with the astounding news. The yards of the ship were at once manned, and the voyagers were hailed on their return to life and civilisation with three hearty cheers. Every man was hungry, and had to be fed; all were ragged, and had to be clothed; there was not one to whom washing was not indispensable, nor one whom his beard did not deprive of all English semblance. It was washing, eating, drinking, shaving—all intermingled. As soon as the first excitement was over, they retired to rest,

and so long had they been without a roof or a bed, that few could sleep.

The *Isabella*, strangely enough, had been the vessel in which Sir John Ross had made his first voyage to the arctic seas. She was now a private whaler.

In pursuit of her calling the *Isabella* remained some time longer in Baffin's Bay; so our arctic discoverers did not reach England till the 15th of October, 1833. They were received as men risen from the dead. Showers of orders, medals, and diplomas were rained down upon Ross; he received the honour of knighthood, and was granted £5000 by parliament, as a remuneration for his pecuniary outlay and privations. The freedoms of the cities of London, Liverpool, Bristol, and Hull were also presented to him.

After the discovery of the exact position of the Magnetic Pole by Sir James Ross in 1831-1833 arctic exploration may be said to have paused for a time; but it is worthy of remark that, during the fifteen years, 1818-1833, it had been actively pursued by seamen and travellers with the then imperfect means at command, no loss of life had occurred, although there had been occasionally more than two hundred men at a time employed upon these expeditions.



A SOU'-WESTER.

CHAPTER XXI.

ARCTIC EXPLORATION ON THE MAINLAND OF AMERICA.

HEARNE'S EXPEDITION OF 1769-70—AT THE COPPERMINE RIVER—THE MASSACRE OF THE ESQUIMAUX—EXPLORATION OF THE CHAIN OF LAKES RUNNING FROM LAKE SUPERIOR TO THE POLAR SEA IN 1775-78—ALEXANDER MACKENZIE'S EXPLORATION OF THE MACKENZIE RIVER IN 1789—FRANKLIN AND RICHARDSON'S EXPEDITION OF 1819—A LONG WINTER JOURNEY—SETTING OUT FROM FORT CHEPEWEYAN—SCARCITY AND DISCONTENT—BUILDING FORT ENTERPRISE—BACK'S JOURNEY TO FORT CHEPEWEYAN—AN INDIAN BEAUTY—WOLFISH TRICKS—AT THE MOUTH OF THE COPPERMINE RIVER—SAILING TO CAPE TURNAGAIN—TERRIBLE PRIVATIONS—A DESERTED FORT—A CANNIBAL TALE—THE RESULTS OF THE JOURNEY—FINDING COPPER.

In a previous chapter (Chap. XII.) we have spoken of some of the attempts in the way of exploration made by the Hudson's Bay Company. We now resume the subject, and have to tell that in 1769 this great trading company undertook to make discoveries to the northward by land, partly to look for a large river on which a coppermine was said to be, and partly to obtain geographical information. A Mr. Hearne was selected to conduct the expedition.

He started from Fort Prince of Wales on the 6th of November, 1769, crossed the Seal River, and travelled over barren ground. The weather beginning to be excessively cold, all his provisions expended, and no supply to be had, the chief of the Indians who accompanied him wishing to return, and ultimately leaving him, he was obliged to retrace his steps, after reaching no farther than latitude 64°, and arrived at the factory on the 11th of December.

On the 23rd of February, 1770, he set out a second time, accompanied by three northern and two southern Indians. They continued to proceed slowly to the northward and westward, living on what the country afforded, which was sometimes most abundant and at others nothing at all—or, as Hearne says, “either all feasting or all famine; sometimes we had too much, seldom just enough; frequently too little, and often none at all. It will be only necessary to say, that we have fasted many times two whole days and nights, twice upwards of three days, and once near seven days, during which we tasted not a mouthful of any thing, except a few cranberries, water, scraps of old leather, and burnt bones.”

Towards the end of July his guide intimated to him that it was too late that year to think of reaching the Coppermine River, and proposed spending the winter among a tribe of Indians where they then were, between the 63rd and 64th degrees of latitude; but on the 11th of August, when making an observation for the latitude, a sudden gust of wind blew down the quadrant, and the instrument was rendered useless. This misfortune made Mr. Hearne resolve to return to the fort, and he arrived at the point from which he started on the 25th of November.

On the 7th of December he set out for the third time to explore the northern parts of North America, and particularly to discover the situation of the copper mine. On the 1st of July he reached a place called Congecathawhachaga, which is not only remarkable on account of the length of the name, but as being the only spot on this long journey at which any observation was made for the latitude.

On the 13th of the same month he reached the Coppermine River, and on the 15th commenced his survey of it. The Indians who accompanied him were in a state of perpetual hostility with the Esquimaux inhabiting the lower part of the river. They now prepared to attack the

Esquimaux in their tents, to which they approached on the 17th about one o'clock in the morning. All the poor unsuspecting creatures lay quiet in their tents when the Indians rushed forth from their ambuscade and fell upon them. Then began a bloody massacre; Hearne all the while standing idly in the rear. The little horde consisted of about twenty persons, men, women, and children, and they were put to death in a most barbarous manner.

Another small tribe of Esquimaux escaped the brutal fury of the Indians. The savages, however, "threw all the tents and tent poles into the river, destroyed a vast quantity of dried salmon, musk-oxen flesh, and other provisions; broke all the stone kettles; and, in fact, did all the mischief they possibly could to distress the poor creatures they could not murder, and who were standing as the woeful spectators of their great or perhaps irreparable loss."

After this piece of wantonness "we sat down," Hearne says, "and made a good meal of fresh salmon." He adds, "it was then about five o'clock in the morning of the 17th, the sea being in sight from the north-west-by-west to the north-east, about eight miles distant; I therefore set instantly about commencing my survey, and pursued it to the mouth of the river, which I found all the way so full of shoals and falls that it was not navigable for a boat, and that it emptied itself into the sea over a ridge or bar." The tide, he says, was then out; but he judged from the marks on the edge of the ice that it flowed about twelve or fourteen feet; that, the tide being out, the water in the river was perfectly fresh; but he continues, "I am certain of its being the sea, or some branch of it, by the quantity of whalebone and seals' skins which the Esquimaux had at their tents, and also by the number of seals which I saw on the ice." He says moreover, that at the mouth of the river "the sea is full of islands and shoals" as far as he could see with the assistance of a good pocket telescope.

Previous to the year 1775 the great chain of lakes which runs towards the north-west from Lake Superior to the Polar Sea, and forms the great receptacle of the waters from the Rocky Mountains, was still wholly unknown. In that year Mr. Joseph Frobisher, a gentleman engaged in the fur-trade, undertook to penetrate into the country yet unexplored to the westward; and he succeeded in advancing a considerable distance on the Missinipi or Churchill River, where he procured as many furs as his canoes could carry. In this perilous expedition he sustained all the hardships incident to a journey through a wild and savage country, where his subsistence depended upon what the wood and waters produced. These difficulties however did not discourage him from returning the following year, when he was equally successful.

His brother then succeeded in reaching Lake de la Croix, still farther to the west. In 1778 Mr. Pond followed the track of Mr. Frobisher, and proceeding still farther, at length arrived at Athabasca, a country hitherto unknown but from Indian reports. The traders having thus reached that chain of internal lakes which affords an almost continuous navigation from the Canadian lakes to the sea, began to proceed much more rapidly in their discoveries; and it was not long before they received intelligence of a great river flowing to the northward.

To explore this river, to which he has given his name, Alexander Mackenzie set out on the 3rd of June, 1789. He commenced his journey from Fort Chipeweyan, on the south side of the Lake of the Hills, attended by a party of Canadians and some Indians, one of whom had been with Hearne. In descending the river, when in latitude $67^{\circ} 45'$, he learned from the tribe of Indians called the *Deguthee-Dinees*, or Quarrelers, that the distance overland to the sea was not great, and that to the westward it was still shorter.

On the 12th of July they entered a lake as it appeared, though no land was seen ahead, but the water was shallow and covered with ice. "At a few leagues from the mouth of the river, my people," says Mackenzie, "could not, at this time, refrain from expressions of real concern that they were obliged to return without reaching the sea." From this it appears that the author was at first disposed to doubt that he had actually reached the ocean. Soon after, however, he observed a rising of the water, which, as the wind was moderate, was believed by all to proceed from the tide. He ascertained this rise to be about eighteen inches. It is possible that the freshness of the water may have caused him some embarrassment; but after he saw several whales sporting among the ice, he was at length disposed to believe that he had actually reached the sea. He determined the latitude of the island on which they encamped, and which he named Whale Island, to be $69^{\circ} 14'$.

The expedition returned without any accident to Fort Chipewyan, on the 12th of September, 1789. The narrative he gave on his return, like the report of Hearne, was long regarded with mistrust, and his assertion that he had reached the sea was generally discredited. But the results of later expeditions have fully vindicated the character of Alexander Mackenzie.

While Captain Parry, in the year 1819, was employed in exploring a passage from Baffin's Bay to the Pacific, another expedition was despatched overland to ascertain the true position of the Coppermine River, and the windings of the shore to the eastward of it. This measure, which had apparently no great difficulties, seemed to promise eminent advantage to geographical science, and, it was thought, might prove serviceable to the intrepid navigator employed to the northward. Lieutenant Franklin (afterwards Sir John Franklin) was selected to command this expedition. He was accompanied by Dr. Richardson, a

gentleman well skilled in natural history, Mr. Hood, and Mr., afterwards Sir George, Back, two midshipmen, and two English seamen.

Captain Franklin and his companions embarked in the end of May, 1819, and arrived safely at York Factory, on the shores of Hudson's Bay, on the 30th of August. Preparations for their long and difficult journey were immediately commenced, and the information which the local experience of the fur-traders could supply was eagerly collected. On the 5th of September the journey commenced from Fort York, and on the 22nd of October our travellers arrived at Cumberland House, a distance of 690 miles.

Notwithstanding the lateness of the season, Captain Franklin resolved to push forward to Fort Chepeweyan, near the western extremity of Athabasca Lake, so that he might personally superintend the preparations for the journey of the ensuing summer. He accordingly set out with Mr. Back on the 18th of January, and arrived at the fort on the 26th of March. Thus he performed a journey of 857 miles in the very depth of winter; the thermometer frequently sinking to forty, and sometimes more than fifty, degrees below zero.

When the rivers, which form the chief communications through these extensive countries, are frozen up, the traders have recourse to sledges drawn by dogs, in which they can proceed at the rate of fifteen miles a day. They sleep in the open air, though the thermometer should be many degrees below the freezing point; their dogs sleeping round them to receive and communicate heat. In these journeys the severity of the cold is not so much dreaded as the danger of perishing for want of food. When violent snowstorms arise the travellers often lose their way, and are sometimes driven to the sad necessity of killing their dogs for food.

As soon as spring began to appear, Dr. Richardson and Mr. Hood set forward to join their companions at

Fort Chepeweyan. The appearance of spring in these climates is exhilarating and enchanting beyond what can be conceived in countries where nature never invests herself during eight months together in the snowy garb of winter. The thaw is hardly begun, when the trees are clothed with foliage, and the whole vegetable world comes forth with a luxuriance no less astonishing than agreeable. But at the same time clouds of mosquitoes and the stinging sand-fly are so active and troublesome, that the traveller who suffers from them is disposed to give the preference to the winter journey, when he has to endure an intense cold, lying unsheltered on the snow.

The whole party were now assembled at Fort Chepeweyan. On the 18th of July, 1820, they set forward on their journey, with hopes that before the good season should expire they might be able to establish themselves comfortably at the mouth of the Coppermine River. The following spring they intended to devote to the examination of the coast to the eastward. But the usual difficulties that accompany extensive journeys in these regions were experienced, and, unfortunately, to a degree that was not anticipated. The rapids of the rivers, the shallows of the lakes, and numerous portages, impeded the progress of our travellers, who suffered also unhappily from scarcity of provisions; an embarrassment from which, it may be supposed, a little calculation and forethought might have relieved them.

As soon as scarcity was felt, discontent made its appearance among the Canadian boatmen; and the cordiality which ought to subsist among all engaged in so hazardous an enterprise was immediately at an end. New ice appeared on the small pools about the 20th of August, and geese were observed flying to the southward; an unequivocal sign of the approach of winter. The Canadian hunters declared that it was impossible to proceed, and Lieutenant Franklin was consequently obliged to forego

his intention of reaching the Coppermine River this season.

The party prepared to settle for the winter on the spot which they had now reached; it was about 550 miles distant from Chepeweyan. On a rising ground near the bank of a river named Winter River, the Canadians constructed a house, to which they gave the name of Fort Enterprise. Trees, chiefly pines, grew round the river and the adjoining lake. Fort Enterprise is situated in latitude $64^{\circ} 28'$, longitude $113^{\circ} 6'$.

Here is Dr. Richardson's description of the place:—

"We have managed," he says, "notwithstanding the diminutive size of the trees, to construct a stately dwelling. It is fifty feet long, and twenty-four wide, and consists of three bedrooms and a common hall. We have besides a large kitchen behind, a storehouse on one wing, and a house for twenty men on the other. If to this you add a few Indian lodges scattered in the foreground you may picture to yourself Fort Enterprise, and conclude that it makes a very respectable appearance.

"The buildings are framed of logs, and plastered on the outside and inside with clay. With the latter material also the roof is covered and the chimneys constructed. The windows are closed with thin parchment made of reindeer skin, and our chairs and tables are formed by the hatchet and knife—tools which the Canadians use with great dexterity."

As soon as our explorers and their retinue were established in winter quarters, all hands were employed in laying in a stock of provisions, and in providing from the flesh of reindeer that preparation of pounded meat known in North America by the name of pemmican. At first they had prospects of plenty; reindeer were numerous, not fewer than 2,000 having been seen in one day; and before they migrated to the south about a hundred and eighty were taken and converted into dried meat. But this

apparently large stock, with the addition of fish from the neighbouring lake and river, was barely sufficient for the consumption of the party and of the train of Indians who crowded round the fort when winter set in to live upon the charity of the whites. Moreover the ammunition was expended, and the packages of blankets, tobacco, and other necessary articles had not yet arrived from the southward.

In consequence of these circumstances, Mr. Back, with some Canadian and Indian attendants, set out on the 18th of October to return to Chepeweyan, and by this extraordinary exertion he relieved the expedition from an embarrassment which would probably have prevented its proceeding in the following summer. The journey was performed wholly on foot, and in the middle of winter, and the sufferings which he endured are thus briefly summed up in his own words: "I had the pleasure of meeting my friends, all in good health, after an absence of nearly five months, during which time I travelled 1104 miles in snow-shoes, and had no other covering at night in the woods than a blanket and deerskin, with the thermometer frequently at 40° and once at 57° below zero, and sometimes passing two or three days without tasting food." To estimate the courage of a man who voluntarily undertook such a journey, it must be taken into account that walking in snow-shoes occasions the most dreadful sufferings to the inexperienced. "The pain of this mode of travelling," as Sir John Franklin says, "can be but faintly imagined by a person who thinks upon the inconvenience of marching with a weight of between two and three pounds constantly attached to galled feet and swelling ankles."

Those who remained at Fort Enterprise experienced nearly as much inconvenience from the severity of the cold. It is remarkable that the cold felt here in December, exceeded, at one time, by three degrees that experienced by Parry in Melville Island, which is situated nine degrees

nearer to the Pole. During these intense colds the atmosphere was generally calm, and the woodcutters and others were able to pursue their ordinary occupations without using any extraordinary precautions. Those who perish from cold in this country generally owe their destruction to the circumstance of being overtaken in an unsheltered place by a storm of wind, which as it rapidly extracts the heat from the body, seems to add to the intensity of the cold, and soon proves fatal. The trees round Fort Enterprise were frozen to their very centres, and became as hard as stones; some of the axes were daily broken, and by the end of December only one was left that was fit for felling trees.

Two Esquimaux interpreters from Hudson's Bay accompanied Mr. Back to Fort Enterprise. Immediately on their arrival they commenced the construction of a snow house, which they maintained to be more comfortable and warm than the wooden one already erected. They built themselves a dome about twelve feet in diameter, and eight feet high, which from the purity of the materials employed in its construction, and the translucency of its walls, had within a very agreeable appearance.

During the dreary winter months the officers employed themselves in drawing and writing their journals. They also found some amusement in studying the character of their Indian followers. The old chief of the Coppermine Indians had a daughter, who was considered the greatest beauty in the whole tribe. She was so much the object of contest among her countrymen, that although under sixteen years of age she had successively belonged to two husbands. Mr. Hood drew her portrait, much to the annoyance of her aged mother, who was exceedingly afraid, she said, that her daughter's beauty would induce the great chief who resided in England to send for the original after seeing the likeness.

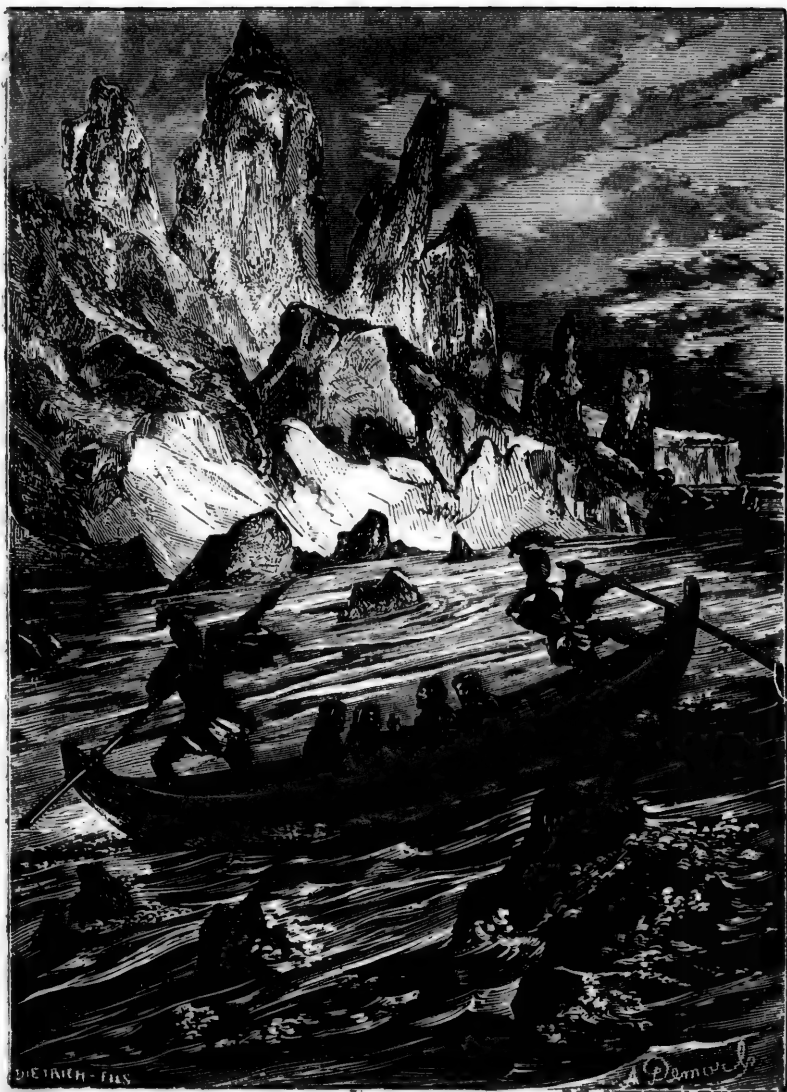
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SHOOTING THE RAPIDS OF THE COPPERMINE RIVER.

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ciently broken up in the Coppermine River to allow of its being navigated by canoes. Their stock of provisions was now nearly exhausted, and it was evident that the party in the prosecution of their journey would have to depend for subsistence, in a great measure, on the exertions of the hunters. But the worst of it was, that the hunters showed symptoms of insubordination as often as they were reminded of the importance of their labours.

The rocky channel of the Coppermine River presented many difficulties in the way of navigation; but the grassy plain on either side abounded with game, particularly with the musk ox, of which a great number were killed. These animals are usually followed by wolves, who hunt in packs, and of which our travellers relate some anecdotes indicating an extraordinary degree of sagacity. The wolves, being unable to hunt down the moose and reindeer, have recourse to a stratagem to drive them over precipitous cliffs. "While the deer are quietly grazing, the wolves assemble in great numbers, and forming a crescent, creep slowly towards the herd, so as not to alarm them much at first, but when they perceive that they have fairly hemmed in the unsuspecting creatures, and cut off their retreat across the plain, they move more quickly, and, with hideous yells, terrify their prey, and urge them to flight by the only open way, which is that towards the precipice; appearing to know that when the herd is at full speed it is easily driven over the cliff, the rearmost urging on those that are before. The wolves then descend at their leisure, and feast on the mangled carcasses." This stratagem was once attempted on Dr. Richardson. While sitting, one evening, on the edge of a precipice above the Coppermine River, he perceived nine white wolves creeping towards him in a crescent; he advanced boldly, and they allowed him to pass; but a poor deer, hemmed in at the same time, was shortly afterwards driven over the precipice.

On the 18th of July, our travellers arrived at the mouth

of the Coppermine, and here the Indians, terrified at the thoughts of meeting the Esquimaux, with which nation they carry on implacable warfare, finally determined to return. Mr. Wentzel, a clerk of the North-west Company, went with them, with instructions from Franklin to lay in a stock of provisions at Fort Enterprise, and to make other arrangements which accidents and the necessities of the expedition might require.

The Canadians, though amused at the first view of the sea, were terrified at the thought of launching on it. It required much pains to prevent them from sinking into a state of utter despondency. The cheerfulness of John Hepburn, the English seaman, who was delighted with a view of the element to which he had been so long accustomed, had a better effect on them than the exhortations of their commander.

The fears of the Canadians were certainly excusable; it required all the hardihood and intrepid resolution of British seamen to embark at so late a season, on so perilous an enterprise. On the 21st of July, twenty people, of whom fifteen had never seen salt water, launched on the Polar Sea in two frail bark canoes, with provisions for only fifteen days, and a voyage before them of indefinite extent.

The sea was found to be open, with little or no ice. The tide was scarcely perceptible, but from the position of the drift-wood along the shore Lieutenant Franklin concluded that the current ran to the eastward. The farthest point to which our adventurous navigator proceeded was Cape Turnagain, in latitude $68\frac{1}{2}^{\circ}$. This point on the east, with Cape Barrow on the west, formed the opening of a deep gulf, that ran southward as far as the arctic circle. This gulf Franklin named George the Fourth's Coronation Gulf. It is studded with numerous islands, indented with sounds affording excellent harbours with good anchorage, all of them supplied with small rivers of fresh water, abounding with salmon, trout, and other fish.

Franklin, finding it absolutely necessary to return, and his stock of provisions being exhausted before he reached Hood's river, at the bottom of Coronation Gulf, determined to proceed up this river as far as it was navigable, and then to strike across the country in a direct line to Fort Enterprise, instead of retracing his course, as he had originally intended, to the Coppermine River. But a cascade, 250 feet high, in Hood's river, soon put a stop to their navigation. They were obliged to prepare for a land journey, to reduce their canoes to more portable dimensions, and to abandon part of their luggage.

On the fifth day of their journey on foot, when they were at a considerable distance from the river, they were surprised by a heavy fall of snow, the harbinger of winter. Their distresses now increased daily; they had to struggle in boisterous weather through snow two feet deep, and over a barren country, which scarcely produced a shrub for fuel. The sun being hid, they had no opportunity of making celestial observations, so that, to increase their anxiety, they were reduced to the necessity of guessing their way through a country totally unknown. During a journey of three weeks all the fresh meat that could be procured amounted to only five days' consumption. The only additional resource was *tripe de roche*, a species of lichen that grows on the rocks; and this unpalatable weed was so scanty, that some days passed without a meal at all. The strength and spirits of the Canadians sank rapidly from fatigue and want of food. Despair made them reckless of consequences, and owing to their inattention the canoes were both dashed to pieces, although our travellers were aware that they should have to cross the Coppermine River.

On the 26th of September they arrived on the banks of this river. The weather had become mild, a few small deer had been killed, and a delusive ray of hope shone on our weary travellers. They were now, however, without the means of crossing the river which lay between them

and the place of their destination. No trees could be found to make a raft; faggots of dried willows bound together were unmanageable without poles or oars. "About this time," says Franklin, "Dr. Richardson, prompted by a desire of relieving his suffering companions, proposed to swim across the stream with a line and to haul a raft over. He launched into the stream with the line round his middle, but when he had got a short distance from the bank his arms became benumbed with cold, and he lost the power of moving them; still he persevered, and, turning on his back, had nearly gained the opposite bank, when his legs also became powerless, and to our infinite alarm we beheld him sink. We instantly hauled upon the line, and he came again upon the surface, and was gradually drawn ashore in an almost lifeless state. Being rolled up in blankets, he was placed before a good fire of willows, and fortunately was just able to speak sufficiently to give some slight directions respecting the manner of treating him. He recovered strength gradually, and, by the blessing of God, was enabled in the course of a few hours to converse, and by the evening was sufficiently recovered to remove into the tent. We then regretted to learn that the skin of his whole left side was deprived of feeling, in consequence of exposure to too great heat. He did not perfectly recover the sensation of that side until the following summer. I cannot describe what every one felt at beholding the skeleton which the doctor's debilitated frame exhibited. When he stripped, the Canadians simultaneously exclaimed, '*Ah, que nous sommes maigres!*'" Franklin adds: "I have omitted to mention that when he was about to step into the water he put his foot on a dagger, which cut him to the bone; but this misfortune could not stop the execution of his generous undertaking."

At length a kind of basket was constructed, large enough to hold one person, and covered with a few fragments of canvas that remained. In this frail machine the party

crossed the river one by one. About eight days of fine weather had been lost in this place for want of canoes.

The last stage of the journey turned out to be by far the most calamitous of the whole. It was now the 4th of October; the weather, which had been unusually mild while the party lingered on the eastern bank of the Coppermine, now increased in severity. The ground was covered with snow; Fort Enterprise was forty miles off; not a morsel of food remained; and the whole party were miserably reduced in strength by toil, anxiety, and privation.

Mr. Back and three Canadians hastened forward in the hope of meeting a band of Indian hunters in the neighbourhood of Fort Enterprise. A few days afterwards, Franklin and seven of the party proceeded onward, leaving Dr. Richardson and Mr. Hood to take care of those who were unable to continue the march. Fort Enterprise was but twenty-four miles off when this separation took place. Four of those who set out with Franklin left him in the course of his journey, being unable to proceed. Of these, Michel, an Iroquois, alone returned to Dr. Richardson's party; the other three were heard of no more.

Franklin reached the fort on the 11th, exhausted, having tasted no food for five days. What was his dismay when he found the place without an inhabitant, with no provisions, no trace of a living animal, and the ground deeply covered with snow. He endeavoured to set out in quest of the Indians, that he might proceed to the relief of Dr. Richardson and his party; but his strength was now utterly gone, and he was obliged to return the next day to his dreary and desolate abode.

Eighteen days passed over him in this miserable condition, with no other food than the bones and skins of the deer which had been consumed the preceding winter boiled down into a kind of soup. On the 29th of October Dr. Richardson and John Hepburn made their appearance, but without the rest of the party. Each was shocked at

the emaciated appearance and sepulchral voice of the other, not being aware that he was himself as much a picture of misery.

Dr. Richardson had now a melancholy tale to relate. For the first two days his party had nothing whatever to eat. On the third day Michel arrived with a hare and partridge, which afforded each a small morsel. Then another day passed without food. On the 11th Michel offered them some flesh, which he said was part of a wolf. They afterwards became convinced that it was the flesh of one of the unfortunate men who had left Captain Franklin's party to return to Dr. Richardson.

Michel grew daily more insolent and shy, and it was strongly suspected that he had a hidden supply of meat for his own use. "On the 20th," says Dr. Richardson, "Michel lingered about the fire under the pretence of cleaning his gun. After we had read the Morning Service, I went about noon to gather some *tripe de roche*, leaving Mr. Hood sitting before the tent at the fireside, arguing with Michel; Hepburn was employed cutting down a tree at a short distance from the tent, being desirous of accumulating a quantity of firewood before he left us.

"A short time after I went out I heard the report of a gun, and about ten minutes afterwards Hepburn called to me in a voice of great alarm to come directly. When I arrived I found poor Hood lying lifeless at the fireside, a ball having apparently entered his forehead. I was at first horror-struck with the idea that in a fit of despondency he had hurried himself into the presence of his Almighty Judge by an act of his own hand; but the conduct of Michel soon gave rise to other thoughts, and excited suspicions, which were confirmed when, upon examining the body, I discovered that the shot had entered the back part of the head, and passed out at the forehead, and that the muzzle of the gun had been applied so close as to set fire to the nightcap behind. The gun, which was of the longest

kind supplied to the Indians, could not have been placed in a position to inflict such a wound except by a second person. Upon inquiring from Michel how it happened, he replied that Mr. Hood had sent him into the tent for the short gun, and that during his absence the long gun had gone off, he did not know whether by accident or not. He held the short gun in his hand at the time he was speaking to me.

"Hepburn afterwards informed me, that previous to the report of the gun Mr. Hood and Michel were speaking to each other in an elevated, angry tone; that Mr. Hood, being seated at the fireside, was hid from him by intervening willows, but that on hearing the report he looked up, and saw Michel rising up from before the tent door, and just behind where Mr. Hood was seated, then going into the tent. Thinking the gun had been discharged for the purpose of cleaning it, he did not go to the fire at first, and when Michel called to him that Mr. Hood was dead, a considerable time had elapsed. I did not dare accuse him openly, but saw he would not leave Hepburn and me together. On the morning of the 23rd, having determined to proceed to the fort, we set out with our last remnant of food, a piece of poor Hood's singed buffalo robe. Hepburn and Michel each carried a gun, and I a pistol."

Michel now became more mistrustful and outrageous than ever.

"Our united strength," says Dr. Richardson, "was far inferior to his; and besides his gun he was armed with two pistols, an Indian bayonet, and a knife. In the afternoon, coming to a rock on which there was some *tripe de roche* he halted, and said he would gather it whilst we went on, and that he would soon overtake us. Hepburn and I were now left together for the first time since Mr. Hood's death, and he acquainted me with several material circumstances which he had observed of Michel's behaviour, and which confirmed me in the opinion that there

was no safety for us except in his death, and he offered to be the instrument of it. I determined, however, as I was thoroughly convinced of the necessity of such a dreadful act, to take the whole responsibility upon myself, and immediately upon Michel's coming up, I put an end to his life by shooting him through the head with a pistol. Had my own life alone been threatened, I would not have purchased it by such a measure; but I considered myself as intrusted with the protection of Hepburn—a man who, by his humane attentions and devotedness, had so endeared himself to me, that I felt more anxiety for his safety than my own. Michel had gathered no *tripe de roche*, and it was evident to us that he had halted for the purpose of putting his gun in order, with the intention of attacking us, perhaps while we were in the act of encamping."

On the evening of the 29th they came in sight of the fort, and at first felt inexpressible pleasure when they saw the smoke issuing from the chimney. The absence of any footsteps in the snow filled them with dismal forebodings; and these were realized, when on entering the house, they saw the wretchedness that reigned there.

Two days after the arrival of Dr. Richardson two of the Indians who accompanied Franklin died of want. The only remaining man and Franklin himself were so reduced that a few hours would in all likelihood have terminated their existence. Dr. Richardson and Hepburn also felt themselves rapidly declining, when on the 7th of November three Indians, sent by Mr. Back, brought the long expected relief. The Indians cleaned the house, and attended the famished travellers with a kindness which could not have been exceeded in the most civilized communities.

When the party gained a little strength, they left the fort, and proceeded to the nearest of the company's posts, where they met with their companion, to whose resolution and physical strength the expedition owed its early success and its ultimate safety.

The results of this journey, which, including the navigation along the coast, extended to 5500 miles, were of the greatest importance to geography. The country traversed afforded little opportunity for the description of scenery; the same general character seems to pervade all these northern regions. We find everywhere rivers and chains of lakes intersecting the whole country, with monotonous forests of pines, bordered by birch and willow, gradually dwindling until they at length totally disappear in about latitude 68° .

The officers of the expedition had many opportunities during their residence at Fort Enterprise of studying the phenomena, electrical, magnetic, and atmospheric, that accompany the aurora borealis. This meteor, it appears, is more frequent and vivid in the neighbourhood of the arctic circle than in more northern latitudes. It was concluded from a vast number of experiments, that the magnetic needle was affected by the aurora under certain circumstances, particularly when the flashes appeared to be between the clouds and the earth. The observations of the officers also led them to conclude that the aurora, instead of being beyond the region of the atmosphere, is rarely at a height exceeding six or seven miles. Its beams were seen frequently to dart between the clouds, and it was evidently affected by the wind. One of the fur-traders told Mr. Hood that he once saw the coruscations of the aurora borealis so vivid and low, that the Canadians fell on their faces and began to pray and cry, fearing they should be killed, and that he threw away his gun and knife that they might not attract the flashes; for they were within two feet of the earth, flitting along with incredible swiftness, and moving parallel to the surface. He likewise affirmed that they made a loud rustling noise, like the waving of a flag in a strong breeze. This noise made by the flashes of the aurora borealis has been called in question. The Siberians affirm that it is sometimes so loud, that their dogs, terrified by it, lie down and refuse to draw the

sledges. The officers of the expedition never heard the noise themselves, nor were they able to collect any information respecting it which could establish it on a better foundation than mere vulgar report.

In travelling through the valleys which intersect the Copper Mountains, Dr. Richardson picked up some plates of native copper, various ores of the same metal, and trap rock associated with it. The Indians dig wherever they observe the prehnite lying on the soil, experience having taught them that the largest pieces of copper are found in its neighbourhood. They report that copper is to be found in every part of this range which they have examined, for thirty or forty miles to the north-west, and that the Esquimaux also resort to the mountains to search for that metal. Some ice chisels about a foot in length and half an inch in diameter, formed of pure copper, were afterwards found among the Esquimaux.

Thus ended this remarkable expedition.

Sherard Osborn truly says: "Franklin's narrative is a tale which should be in the hearts of those sailors of England who desire to emulate the deeds and fame of such men as himself and his followers. It is an *iliad* in prose, and replete with pictures of rare devotion to the most ennobling of causes—the advancement of human knowledge. A generous and chivalrous spirit breathes through every page, and sheds a lustre, not only on every act of the leader, but likewise on those who were his comrades and friends in many sad hours of need and danger. Those terrible marches; the laborious explorations of the regions around the mouth of the Mackenzie and Coppermine Rivers; the long bitter starvation of the winter; the murder of Hood; the destruction of the assassin and cannibal; the intrepid effort of Richardson to swim across the freezing Coppermine to save his comrades; Back's fearful winter journey to bring succour to his chief:—are all tales which should be household words by every English fireside."

CHAPTER XXII.

ARCTIC EXPLORATION ON THE MAINLAND OF AMERICA (*continued*).

FRANKLIN AND RICHARDSON'S SECOND EXPEDITION—THE PROGRAMME—ON THE MACKENZIE RIVER—MUD FOR FOOD—ROMANTIC SCENERY—THE SQUINTERS—LANDING ON GARRY ISLAND—WINTER QUARTERS AT FORT FRANKLIN—CHRISTMAS FESTIVITIES—FRANKLIN'S EXPLORATION OF THE COAST—A SINGULAR CONTEST WITH THE ESQUIMAUX—A PRUDENT RETURN—DR. RICHARDSON'S EXPLORATION TO THE EASTWARD OF THE MACKENZIE—CAPTAIN LYON'S EXPEDITION—CAPTAIN BEECHEY IN THE *Blossom* FRIGATE—ANEC-
DOTE OF FRANKLIN—BACK'S EXPEDITION IN 1834—BACK'S EXPEDITION IN 1836—DEASE AND SIMPSON'S SURVEY IN 1837-39—ASSASSINATION OF SIMPSON—DR. RAE'S EXPEDITION OF 1845-47—HUNTING AND FISHING—WINTER SPORTS UNDER DIFFICULTIES—EXPLORATION IN THE SPRING.

THE sufferings endured in the last expedition did not deter the same intrepid individuals from repeating the attempt to explore the shores of the polar seas. Towards the close of 1823 Government made known its intention of sending out another expedition under Captain Parry to try to find the passage to the west through Regent's Inlet. At the same time Franklin proposed to survey the coast westward from Mackenzie River. His offer was accepted, and it was expected that experience dearly purchased would instruct him to obviate all risk of encountering privations like those of the last voyage.

Orders were immediately forwarded to the agents of the Hudson's Bay Company to prepare a supply of provisions. At the requisite stations boats were constructed, combining in the highest possible degree the qualities of strength and lightness; and these were forwarded with the baggage and stores to proceed into the interior from Hudson's Bay. Captain Franklin, Dr. Richardson, Mr. Back, and Mr.

Kendal proceeded by way of New York. Their instructions directed them to form their winter establishment in the neighbourhood of the Great Bear Lake, and in the spring of 1826 to proceed down the Mackenzie. At the mouth of the river the travellers were to separate; Captain Franklin and Mr. Back were to go westward and try to reach Kotzebue's Inlet, where they might expect to meet the *Blossom* frigate, commanded by Captain Beechey. Dr. Richardson and Mr. Kendal were, at the same time, to proceed towards the east, so as to examine the coast between the Mackenzie and Coppermine Rivers.

The officers proceeding by New York, Niagara, and Lake Superior overtook the boats in Methye River on the 29th of June, 1825. This spot is in latitude $56^{\circ} 10'$, longitude $108^{\circ} 55'$, and almost at the head of the waters that flow eastward into Hudson's Bay. The officers had travelled 2800 miles and the boats 1200 before they met together.

Once embarked on the Mackenzie our travellers had an easy navigation. In many parts of the country which they had crossed between Isle de la Crosse and the Mackenzie their view was impeded by the smoke of woods on fire. Whether these conflagrations arose from design on the part of the Indians, or from their negligence in scattering the embers from their fires, could not be learned with certainty.

In latitude 62° stands Fort Simpson, at the confluence of the Mackenzie and the River of the Mountains, descending from the west. By this river the traders procure provisions, and among other articles potatoes in abundance, the cultivation of which has been advantageously introduced into this remote region. The Mackenzie, hitherto half a mile or a mile in width, spreads below Fort Simpson into a majestic stream two miles broad.

Our travellers were now at no great distance from the Great Bear Lake, and as five or six weeks of the good season still remained, it was resolved that Captain Franklin

and Mr. Kendal should descend the river to the sea, and survey its mouth, by which they might considerably abridge the operations of the ensuing summer. Dr. Richardson, at the same time, was to examine the east side of the Great Bear Lake, while Mr. Back was directed to superintend the preparations for wintering.

The entrance to the Bear Lake River is distinguished by a very remarkable mountain, whose summit displays a variety of insulated peaks, crowded in the most irregular manner. It is composed of limestone, and from the lower cliffs which front the river a dark, bituminous liquid oozes out. The stream which descends from the Bear Lake is remarkably pure and limpid, while the waters of the Mackenzie are white and turbid. A few miles above the Bear Lake River, and near its mouth, the banks of the Mackenzie contain much coal, which was on fire in 1825, as it had been observed by Mackenzie, in his voyage to the sea; its smell was very disagreeable. On subsequent trial at the winter quarters on Great Bear Lake this coal was found to emit but very little heat, and to be totally unfit for the blacksmith's use. The banks likewise contained layers of unctuous mud, which the Indians in the neighbourhood use occasionally as food during seasons of famine, and even at other times chew as an amusement. It has a milky taste, and the flavour is not disagreeable. Our travellers used it to whiten the walls of their dwelling, for which purpose it appeared well adapted.

The scenery of the Mackenzie below Bear Lake River is in many places highly romantic. In one place, called by the traders the Ramparts, the river, varying in breadth from 400 to 800 yards, runs for seven miles through a defile, the walls of which are sometimes 150 feet high. Several streams trickling over the cliff wear the rock into a turreted shape, while numerous cavernous openings, occasionally assuming the form of Gothic architecture, give the cliffs the character of an ancient cathedral.

On the 10th of August Captain Franklin arrived at Fort Good Hope, the lowest of the company's establishments. This abode of civilized man, whom the love of gain induces to brave the inclemency of those rigorous climates, is situated in latitude $67^{\circ} 28' 21''$, and longitude $130^{\circ} 51' 38''$. The fort was established for the purpose of carrying on trade with the tribe of Indians called Loucheux or Squinters, an appellation which Captain Franklin was disposed to interpret sharp-sighted. "They are," he says, "a good-looking people, resembling the Esquimaux in manner and general appearance, but not in their eyes, which are prominent and full." They resembled that nation also in their custom of perforating the septum of the nose, through which they thrust pieces of bone or strings of shells, which they purchase from the Esquimaux.

On approaching the sea Captain Franklin experienced no difficulty but what arose from the number of channels and branches into which the river divides itself. The banks as well as the islands are entirely alluvial, supporting willows at the lower part and spruce trees at the summits.

Two days' voyage through these channels brought our travellers within sight of the ocean. The water was still quite fresh, and continued so until rowing towards an island at a distance, they entirely lost sight of the eastern shore. A line of strong ripple marked the termination of the fresh water, that on the seaward side being brackish; and in their farther progress of three miles to the island they had the indescribable pleasure of finding the water decidedly salt. The sea to the northward appeared quite free from ice; numerous seals and whales, black and white, were seen sporting on its surface.

The island on which Captain Franklin landed, and which he named Garry Island, is about five miles long by two broad, and seems to be a mass of frozen mud, with an appearance of vegetable mould in some places exposed to the sun. Here the union flag was hoisted, and Captain Frank-

lin placed a letter with an account of his proceedings at the foot of the flag-staff, in case that Captain Parry, on entering the Polar Sea, might approach that island. Another letter of the same purport, enclosed in a waterproof box, was sent adrift with the same intention. The rise of the tide observed here was only three inches, and the position of Garry Island was ascertained to be latitude $69^{\circ} 20'$, and longitude $135^{\circ} 41'$.

Mackenzie erred but little in the latitude assigned to the mouth of this river; and indeed, Captain Franklin fully vindicates him from the imputations thrown on his veracity for asserting that he had reached the sea without having ascertained that the water was salt. "It is probable," says Captain Franklin, "that even had the sea been free from ice at the time of his visit, he could not have gone far enough to prove its saltness, though the boundless horizon, the occurrence of a tide, and the sight of porpoises and whales, naturally induced him to say that he had arrived at the ocean. The survey of the Mackenzie made on this expedition differs very little in its outline from those of its discoverer, whose careful correctness we have often occasion to admire."

The examination of the mouth of this great river being thus happily effected, the explorers commenced their return. The river had fallen considerably, and the difficulty of ascending the rapids was consequently increased.

It deserves to be noticed that towards the end of August our travellers found the weather almost inconveniently warm. The thermometer in the shade stood at 66° , and at 76° when exposed to the sun. On the same day the refraction of the atmosphere, which had been observed to be unusually great towards the mouth of the Mackenzie, was particularly powerful. The mountains were distorted into the most extraordinary shape, and even the banks of the river at a little distance appeared to have such an elevation that they could hardly be recognised.

On the 5th of September Franklin and his party arrived at the winter residence on Great Bear Lake, to which the officers in his absence had given the name of Fort Franklin. Dr. Richardson had previously returned, having completed his examination of the north-eastern shore of the lake where it approaches nearest to the Coppermine River. He fixed also upon the place to which the eastern expedition should direct their steps on their return from the Coppermine River the following season.

The establishment at Fort Franklin was composed of several comfortable dwellings placed on a dry sandy bank, about twenty-five feet above the lake. Towards the north a ridge of hills of moderate elevation bounded the prospect, and afforded some shelter in that direction. The south-western arm of the Bear Lake, here about four miles wide, opened towards the south. At a little distance from the fort were trees in abundance, chiefly black and white spruce and larch, some of which were fifty feet high. The number of persons assembled at the fort amounted to fifty, including Canadian and Indian hunters, with their wives and children.

When the winter set in the officers amused themselves in drawing and writing their journals. A school also was established to occupy the men. When the migrating birds had wholly disappeared the view abroad became extremely dreary. On the 11th of October a great fall of snow took place, and with this began the amusements and occupations of a northern winter. General pleasure was felt when it was first announced that the ground was sufficiently covered with snow to allow travelling in dog-sledges. The festivities of Christmas were duly observed, and a dance was given at which were present sixty persons, forming a motley assemblage of Englishmen, Scotch Highlanders conversing in Gaelic, French Canadians, Esquimaux, and Indians of four different tribes.

In February some fears began to be entertained of want

of food. The stock of dried meat was expended, and the fishing lines were unproductive. The men were placed on short allowance. This distress, however, did not last long; a moose deer was killed, which cost six days in hunting, the fisheries improved immediately after, and supplies arrived from the company's stations. In April warm weather commenced, though the ground was still covered with snow; Dr. Richardson and Mr. Kendal completed the survey of the Great Bear Lake while the men at the fort were employed in building a large boat.

On the 22nd of June the whole party embarked to fulfil the great object of the expedition. The weather was now warm, the thermometer standing at 71° in the shade. On the 4th of July they reached the fork or point where the principal mouths of the Mackenzie separate to run east and west. This point they therefore named Point Separation. Our travellers divided into two parties, to proceed, according to their instructions, one towards the east the other to the west.

"By six in the morning of the 4th of July," says Franklin, "the boats were all laden and ready for departure; it was impossible not to be struck with the difference between our present complete state of equipment and that in which we had embarked on our former disastrous voyage. Instead of a frail bark-canoe and a scanty supply of food, we were now about to commence the sea voyage in excellent boats, stored with three months' provisions. At Dr. Richardson's desire the western party embarked first; he and his companions saluted us with three hearty cheers, which were warmly returned; and as we were passing round the point that was to hide them from our view we perceived them also embarking."

Captain Franklin's party had hardly cleared the mouth of the river and gained the sea, when they entered a wide bay, on the shores of which they perceived a boat of Esquimaux. These soon came off to the boats in such

crowds, that our voyagers, after counting seventy-three gave up the task in despair.

Augustus, the Esquimaux interpreter, informed them that the strangers had no object in visiting that coast but to carry on trade. At this news they testified the most extravagant joy; but the traffic carried on with them on this occasion rather tempted their cupidity than gratified their desires. The boats were aground though a mile from the shore, and were surrounded by nearly three hundred Esquimaux. These, at first importunate and clamorous, became at length so emboldened as to attempt to steal from the boats. When detected and resisted, they grew furious, and seemed to be concerting measures for a simultaneous attack. They flourished their knives, and tried to gain possession of the boats.

For several hours this singular contest continued, and terminated at length without the loss of blood on either side; the English having preserved their tempers so as to refrain from using firearms, while the Esquimaux, unwilling to hurt the strangers, aimed solely at becoming masters of their property.

After the boats had escaped this danger, Augustus landed, and harangued the people on the impropriety of their conduct. They welcomed him with songs and dances, which he was surprised to find were the same as those practised on similar occasions in his own country.

The boats now proceeded along the coast, with a fair wind in a west-north-west direction. They had not, however, proceeded many miles when their progress was interrupted by a sheet of ice, fastened to the shore and extending to seaward as far as the eye could reach. They found that they had just arrived in time to see the breaking up of the ice.

Here a party of Esquimaux soon made their appearance. They were an inoffensive tribe, and jumped for joy when Augustus explained to them the advantages to be derived

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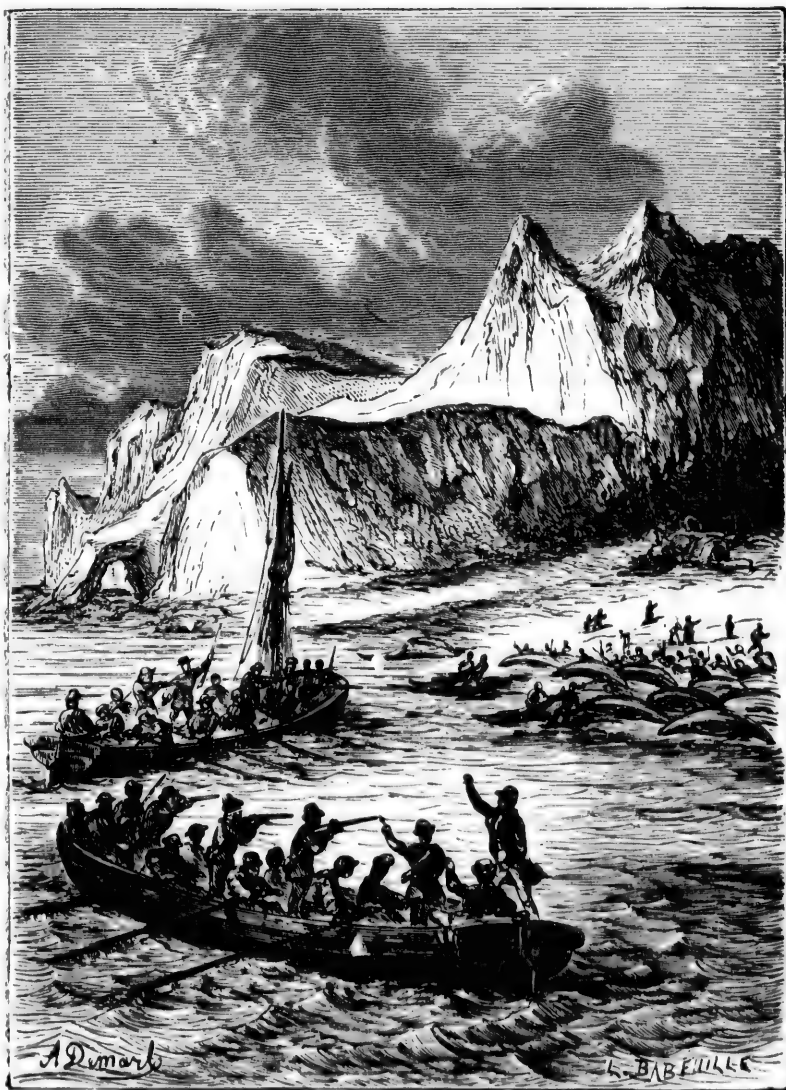
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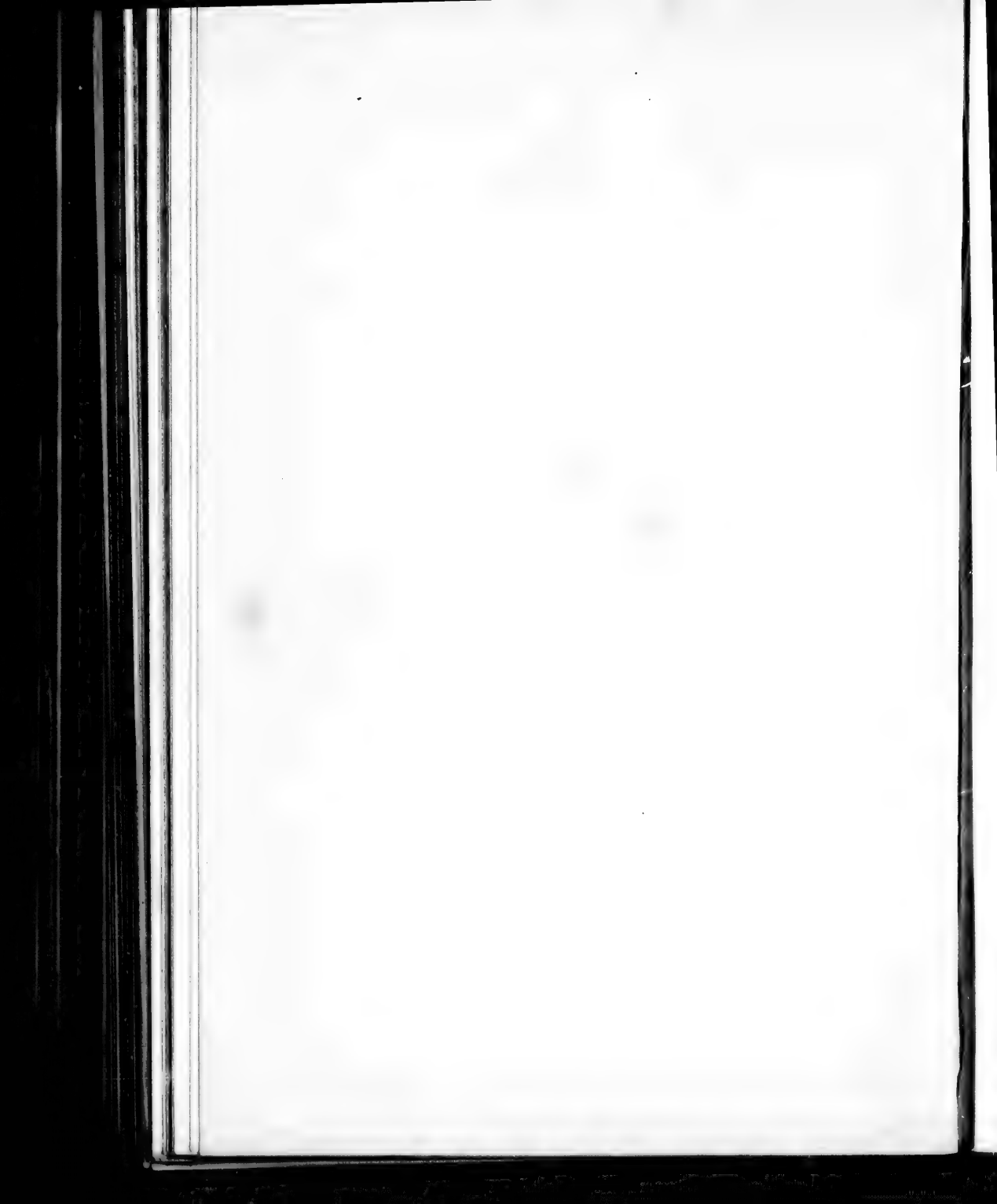
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A SINGULAR CONTEST WITH THE ESQUIMAUX.
Ice-World Adventures.



from an intercourse with white people, to whom they were now introduced for the first time. When awls and fishing-hooks were offered to them as presents, they stuck them in the septum of the nose as ornaments. These people had also holes pierced on either side of the under lip in which were placed circular pieces of ivory, with a large blue bead in the centre, like the natives on some parts of the north-west coast of America. The men were taller and stouter than any tribes of Esquimaux hitherto seen on the eastern coast, and their cheek-bones were less projecting: but they had the general characteristic of their nation, the small eye and broad nose.

They informed our travellers that, as soon as the wind should blow strongly from the land, the ice might be expected to be removed from the shore, so as to open a passage for boats, and that it would remain in the offing till the reappearance of the stars. Farther to the westward, they continued, the ice often adhered to the land throughout the summer; and when it did break away, it was carried but a short distance to seaward, and was brought back whenever a strong wind blew on the coast. If there were any channels in those parts, they were unsafe for boats, as the ice was continually tossing about. The natives expressed their wonder that the white men were not provided, like themselves, with sledges and dogs to travel over the land whenever these interruptions should occur. Their homes were built of drift-wood, which is found along this shore in abundance, brought by the current from the east. Some pine trees were found thirty-six feet long and seven in girth.

As soon as the breaking up of the ice allowed Franklin and his party to embark, they struggled, not without difficulty and danger, to reach an island, which was named by them after the philosopher Herschel. Here again they met with Esquimaux, who were provided in some measure with knives and other implements of iron. When asked how

they had procured them, they replied that they received them chiefly from a tribe of Esquimaux who reside a great distance to the west, and to whom they send their young men every spring with furs, sealskins, and oil, to trade in these articles. Some Indians also descend a river that enters the Polar Sea nearly opposite Herschel Island, and carry on a similar traffic. These people supposed that the Indians and the Esquimaux with whom they traded obtained the goods from *Kabloonacht*, or white people who dwell far to the west. Thus it appears that Russian manufactures are distributed among the Esquimaux to the east of the Mackenzie.

The shallowness of the shore, the great quantity of broken ice, and the thick fogs, greatly impeded the progress of the party, who now began to despair of being able to effectuate the object of their mission. A large river flowing into the sea near the meridian of 141° which separates the British and the Russian territories, was named the Clarence River. Here a box containing a royal medal was deposited, and the union jack being hoisted was saluted with three cheers. Farther on another river was discovered, and named the Canning River. The water opposite to it was fresh three miles out to sea.

The fogs now came on so thick as to compel the voyagers to draw their boats on shore, and wait till the weather should clear up, so as to allow them to pursue their intricate navigation through the ice. This delay completely dissipated the hopes of ultimate success. It was now the 16th of August, and they had only reached half-way to Icy Cape. Winter was rapidly advancing, and the temperature of noon was rarely above 37° . Franklin resolved therefore to return immediately, rather than expose the lives of his followers in a hopeless enterprise. The last observation, made in Return Reef was in latitude $70^{\circ} 26'$, longitude $148^{\circ} 52'$.

On the last day of the month the boats reached Garry

Island, and afterwards entered a fine river, which was supposed to be one of the mouths of the Mackenzie; nor was the mistake discovered until the voyagers had advanced so far as to have mountains on the eastward. This river, which Franklin named Peel River, was from a quarter to half a mile in width. Its banks, like those of the Mackenzie, were well clothed with poplar, birch, and willow.

They arrived at Fort Franklin on the 21st of September, having accomplished in three months a voyage of 2048 miles. The extent of shore which they had traced to the westward of the Mackenzie was 374 miles; and in this whole length there was not a single harbour in which a ship could find shelter.

The progress of Dr. Richardson's party to the eastward was attended with much less difficulty. He was, perhaps, favoured by the current which runs to the eastward, and had a bolder shore, with deeper water, and consequently less impeded with ice. He also had something to apprehend from the overwhelming numbers and turbulent manners of the Esquimaux; but he found them an intelligent and by no means ferocious people; so that when treated mildly and firmly, they laid aside every appearance of hostility. On one occasion they attempted to seize the boats, but at the sight of firearms desisted, and parted from the English, exclaiming, "Friendship is good!"

Dr. Richardson received from the Indians and Esquimaux an account of a great lake extending about 150 miles from east to west at no great distance from the shore, and about 140 from north to south. It was reported full of islands.

Dr. Richardson's party followed the shores of two extensive bays, respectively named Liverpool and Franklin Bays. The eastern shore of the latter, as it ran a long way to the northward, caused them some anxiety; but on rounding Cape Parry they again saw the coast tending to the south and east as far as the eye could reach. As they

approached the estuary of the Coppermine River, land was descried to the north, which filled them with apprehensions, lest, joining with the continent of America it might bar their farther progress. But as they advanced they found that the land to the northward was unconnected with the main shore, from which it was separated by a channel from twelve to twenty miles in width. This island, the coast of which, apparently continuous, was observed for above a hundred miles, received the name of Wollaston Land.

On the 7th of August the boats had advanced so far in Coronation Gulf as to join the survey now made to that of the former expedition. The length of coast examined between the Mackenzie and Coppermine Rivers was 902 miles. The success which had hitherto attended the eastern detachment continued to the end; and on the 1st of September they reached Fort Franklin without an accident.

In order to complete as far as possible the survey of the northern shores of the American continent, Government sent two expeditions to co-operate with those of Captain Franklin and Dr. Richardson. On the 10th of June, 1824, Captain Lyon sailed from England in the *Griper* with instructions to winter in Repulse Bay, and in the ensuing spring to cross from the head of that bay to the northern shore of the American continent, which he was to survey westward, so that his survey joined to that of Dr. Richardson might complete a knowledge of the shores of the Polar Sea, from their nearest accessible point to the mouth of the Mackenzie River. The whole voyage of Captain Lyon was a continued struggle with bad weather. He arrived late in Sir Thomas Rowe's *Welcome*, in which, from the state of the sea, encumbered with ice, and adverse winds, he was unable to advance. After losing all his anchors he had to relinquish the undertaking and return home.

Captain Beechey also, in the *Blossom* frigate, was ordered to winter in Kotzebue's Inlet, and in the summer of 1826 to endeavour to find a passage eastward, round Icy Cape, so as to meet the expedition of Captain Franklin. The ship, however, was prevented by ice from doubling Icy Cape; but Mr. Elson, the master, was sent in the barge to prosecute the voyage as far as possible to the east. On the 22nd of August he arrived at a low sandy point, on which the ice had grounded; and as a compact field of ice extended northward as far as the eye could reach, Mr. Elson was obliged to relinquish all thoughts of proceeding farther. This point lies in latitude $71^{\circ} 23' 39''$, and longitude $154^{\circ} 21'$, and is 120 miles beyond Icy Cape. The coast examined by Mr. Elson was flat, abounding in lakes and rivers, and thickly inhabited by Esquimaux, whose winter habitations are close to the beach.

The point from which Franklin commenced his return to the Mackenzie on the 18th of August is only 160 miles from the point reached by Mr. Elson four days later. Had he been aware that by persevering in his exertions for a few days he might have reached his friends, it is possible that a knowledge of the circumstance might have induced him, through all hazards, to continue his exertions.

There is an interesting personal circumstance connected with this expedition of Franklin's. When he left England in order to prosecute it, his first wife was lying at the point of death; indeed she expired the day after his departure. "With heroic fortitude she urged him to set out on the very day appointed, entreating him, as he valued her peace and his own glory, not to delay a moment on her account. His feelings may be imagined when he raised on Garry Island a silk flag, which she had made and given him as a parting gift, with the instruction that he was only to hoist it on reaching the Polar Sea."

We come now to the year 1833, when great anxiety had been excited in England, by the prolonged absence of Sir

John Ross's expedition. Commander Back volunteered to go for a third time to the northern shore of America with a party for Ross's relief. Before he reached his destination, however, he got tidings of the safety of the explorers; his energies therefore found employment in tracing to the sea that current which is now known as Back's River.

In 1836 Commander Back was sent out again, in the *Terror*, with orders to reach, if possible, Wager River, or Repulse Bay, and there, leaving the ship, to cross the intervening land to Regent's Inlet; while another detachment of the crew were to travel north to the Fury and Hecla Strait, and a third to proceed along the American coast to Back's River and Cape Turnagain. All, or as much at least as was possible of this work, was to be accomplished that year, and Commander Back was specially instructed on no account to fail in returning home that same season.

"It is curious," says one writer, "to see how these orders were, from unavoidable circumstances, disobeyed in every particular. The *Terror* was involved among the ice before she reached the entrance of Frozen Strait; and not only was her farther progress stayed, but she was compelled perforce to winter in the pack. The ice gradually accumulated under and around the vessel, till it was raised high above the sea level, and long after the rest of the floe had broken up the *Terror* remained, helplessly elevated upon an ice-cradle, which carried her hither and thither at the mercy of the wind and tide, and did not disperse till the 11th of July, when the vessel proved so 'crazed, broken, and leaky,' that the voyage home was far from being the least anxious part of the expedition."

The survey of the North American coast was further prosecuted in 1837-1839 by Dease and Simpson, two officers of the Hudson's Bay Company, who did good service in the cause of geographical knowledge. In 1837 they descended the Mackenzie to the sea, and surveyed in the month of July that part of the northern coast of America

which had been left unexamined by Franklin and Elson in 1825, from Return Reef to Cape Barrow.

After wintering at Fort Confidence on Great Bear Lake, the next season was employed in descending the Coppermine River and tracing nearly a hundred and forty miles of new coast beyond Cape Turnagain, the limit of Franklin's survey in 1821.

In 1839 Simpson explored the whole coast beyond Cape Turnagain as far as Castor and Pollux River, on the eastern side of the huge arm of the sea which receives the waters of the Great Fish River. On his return voyage he traced sixty miles of the south coast of King William's Island, and a considerable part of the high bold shores of Victoria Land, and reached Fort Confidence on the 24th of September, after one of the longest and most successful voyages ever performed in the polar waters. He had traversed over 1600 miles of sea.

"Unfortunately," says Dr. Hartwig, "he was not destined to reap the rewards of his labour, for in the following year, while travelling from the Red River to the Mississippi, where he intended to embark for England, he was assassinated by his Indian guides; and thus died, in the thirty-sixth year of his age, one of the best men that have ever served the cause of science in the frozen north."

The last mainland expedition we shall notice here is that of Dr. Rae, in 1846. It is a fine example of how much may be done with very limited means. On the 15th of July he started from Fort Churchill, on the west side of Hudson's Bay, with twelve men and two boats. On arriving at the head of Repulse Bay he made his way to the sea, crossing the isthmus which separated him from Boothia Gulf, a distance of forty miles.

It was now, however, the first week of August, and heavy rain set in, rendering progress impossible. So he recrossed the isthmus and joined the party he had left at Repulse Bay, determined to have no farther survey till the

spring, and to employ the rest of the open season in making the best provision he could for the winter.

His stores had been calculated for only four months' consumption; he was entirely destitute of fuel; the natives would promise him no supplies; he knew nothing of the resources of the country, and the head of the bay had the character of being one of the most dreary and inhospitable of polar coasts. But Rae was used to hardships, and had confidence in his own ability as a sportsman.

He selected a sheltered site for his winter dwelling, near the river, on the northern shore leading to the lakes, and here established his fishing stations. Some of his men were sent out to bring in stones for building his house, others to set nets, to hunt deer, and to gather fuel. The walls of the house were built two feet thick, the stones being cemented with mud and clay. Squares of glass were fixed in three small apertures. Timber was unknown in this bleak region, so he used the oars and masts of his boats for rafters, stretching over them oilcloth and skins for a roofing. A water-tight door was made of deer-skins, nailed over a framework of wood. The interior of the house, which was to serve for twelve persons during eight winter months, was only twenty feet long by fourteen wide. Yet in these narrow dimensions Rae found room for a great part of his stores, and by a partition of oilcloth secured separate quarters for himself, where he worked his observations and kept his journal.

The hunting and fishing proved very successful. Fuel, however, was badly wanted. Withered moss, heather, and such-like were collected, and after being dried piled in stacks. As the season advanced our explorer built two observatories of snow; one for a dip circle, and the other for a horizontally suspended needle, to test the action of the aurora. Snow-houses were also built for the dogs and for stores, etc., etc., and all were connected by passages cut under the frozen snow.

Early in January the thermometer sank 79° below the freezing point; and even indoors it was commonly below zero. "This," says Rae, "would not have been unpleasant where there was a fire to warm the hands and feet, or even room to move about; but where there was neither the one nor the other, some degrees more heat would have been preferable." Their food was so short, that they could afford themselves but one meal a day, and were obliged to discontinue the comfort of a cup of tea. Being short of oil also, and darkness and cold together being intolerable, they had no resource but to pass about fourteen hours out of the twenty-four in bed. When they went to bed their blankets sparkled with hoar-frost. Rae's own waistcoat became so stiff that he had much ado to button it. When he went to open his books, he found that the leaves were fast frozen together. The damp from the walls had got into them before the frost set in.

In spite of discomfort the men enjoyed excellent health. They even made light of their sufferings. When one poor fellow got his knee frozen in bed, he was sorry that it became known, as the laugh was turned against him for his effeminacy.

On Christmas Day they all had "an excellent dinner of venison and plum-pudding," and on the 1st of January "capital fat venison steaks, and current-dumplings." A small supply of brandy was served out to drink to absent friends; and, on the whole, Rae thinks "a happier party could not have been found in America, large as it is."

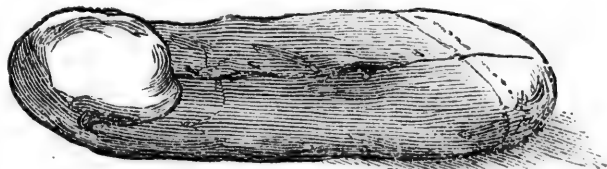
By the commencement of March deer began to migrate to the north, and during this month Rae got sledges finished and all preparations made for his spring survey. On the 3rd of April the thermometer rose above zero for the first time since the 12th of December. On the 4th he set out, taking with him three of his men and two Esquimaux; his luggage and provisions being stowed in two sledges, each drawn by four dogs. He took no tent, as he found it more

convenient to build snow-houses. Those he built on his onward journey served on his way back. In these houses storm and cold were unfelt. On one occasion when there was a stiff fall, with the thermometer 21° below zero, he says, "We were as snug and comfortable in our snow-house as if we had been lodged in the best house in England."

In this journey he surveyed the whole western shore of the sea until he reached the farthest discovery of Ross to the south.

In a second journey, made the same spring, he traversed the eastern coast till he reached Cape Crozier; from hence he could observe the line of coast some miles farther to the north, leaving, as he reckoned, not more than ten miles of shore to be observed up to the mouth of the Fury and Hecla Strait; the shortness of his provisions would, however, allow him to go no farther. His thorough exploration of the shores of Committee Bay connects the discoveries of Parry on the one side with those of Ross on the other.

The ice broke up late in 1847, and it was not till the 12th of August that the boats were launched in open water. Rae safely arrived at York Factory on the 6th of September. The good health and high condition of the whole party excited unqualified admiration. "By George!" exclaimed a stout corporal in charge of the sappers and miners destined to accompany Richardson in his voyage in search of Franklin, "I never saw such men."



A DUFFEL SLEEPING BAG.

CHAPTER XXIII.

MISCELLANEOUS VOYAGES.

"WORSHIPFUL FRANCIS CHERIE'S" EXPEDITION IN 1603 — CHERRY ISLAND—STEPHEN BENNET'S EXPEDITIONS OF 1603, 1604, 1605, AND 1606—WHOLESALE SLAUGHTER OF WALRUSES—HOT WEATHER AT CHERRY ISLAND—TEACHING A WALRUS—THE MUSCOVY COMPANY AND CHERRY ISLAND—THE FIRST WHALING VOYAGE—JONAS POOLE'S VOYAGE IN 1612—BAFFIN ON A WHALING EXPEDITION IN 1618 — THE ENGLISH LORD IT OVER OTHER NATIONS — OTHER WHALING VOYAGES—BAFFIN ON THE COST OF DISCOVERY—JENS MUNK'S EXPEDITION IN 1619—IN WINTER QUARTERS—SEEING THREE SUNS—COLD, FAMINE, AND DISEASE—THE RETURN TO DENMARK—A BLOW FROM A KING'S CANE—MUNK'S DEATH —KOTZEBUE'S EXPEDITION IN 1815-18—A MOUNTAIN OF ICE—THE END OF THE EXPEDITION — SWEDISH ARCTIC EXPLORATION—THOROUGH EQUIPMENT—CAPTAIN LONG'S DISCOVERIES IN 1867—SAILING IN THE SEA OF KARA IN 1869—A COMMERCIAL POLAR EXPEDITION IN 1874—THE SWEDISH EXPEDITION OF 1875.

THE various voyages which were in early days made into the arctic seas, for the purpose of discovering a passage to the Indies, not only laid the foundation of an extensive and advantageous commerce with Russia (see p. 109, *et seq.*), but gave rise to the regular establishment of the fisheries of Newfoundland, of Davis's Strait, and of Spitzbergen. So early as the year 1603 the "worshipful Francis Cherie" fitted out a ship, called the *Grace*, of fifty tons, whereof Stephen Bennet was master, with instructions to visit Cola in the first place, in order to dispose of her cargo, and take in such other goods as Lapland might afford; and after that "to proceed on some discovery." For the latter purpose Bennet left the river of Cola on the 6th of August.

On the 17th of August he fell in with an island, on which his people landed. They found nothing but two foxes, one white, the other black, a piece of lead, and a

fragment of a morse's tooth. Being too late in the year to attempt anything farther to the north, he stood from this island to the westward, continuing in the same parallel till he had an observation, by which he determined the latitude of the island to be $74^{\circ} 30'$. This island had been discovered by Barentz many years before, and named by him Bear Island; Bennet now renamed it Cherry Island, and the second name seems to have taken hold of popular fancy more strongly than the first.

In the following year Bennet proceeded on the same voyage in the *God Speed*, of sixty tons, belonging to Mr. John Welden. They left Wardhuys on the 6th of July, and on the 8th arrived at Cherry Island, where they landed. On one part of the island they found a great many walruses. Out of a thousand, however, they managed to kill only fifteen. They filled a hogshead with the loose teeth lying on the island, and after viewing the wonders of the place, and killing some more walruses, they set sail homewards, and arrived in the Thames on the 15th of October, 1604.

The next year Mr. Welden, the owner of the ship, with Bennet as master, made another voyage to Cherry Island. Being now more expert in killing the morses, they not only took their teeth but boiled their blubber into oil. They also discovered a mine of lead ore, and brought away about thirty pounds of it in weight.

Again in 1606 Bennet proceeded in the same ship, accompanied by a pinnace of twenty tons. They arrived off the island on the 3rd of July, but the ice not having broken up from the shores, the morse had not landed.

On the 13th the ice began to disperse and the morses to land. A party, properly equipped, went on shore; and so well had they improved in the work of destruction, that "before six hours were ended wee had slayne about seven or eight hundred beasts." By the 26th they had taken on board twenty-two tuns of oil and three hogsheads of teeth.

besides which they had slain two large bears. They left the island on the 29th of July, and on the 15th of August arrived in the Thames.

In 1608 Mr. Welden again proceeded in his ship to Lapland and Cherry Island. At the latter he arrived on the 18th of June, slew two bears on shore, and perceived great store of sea morses. On the 21st and 22nd the weather is stated to have been calm and clear, and as hot as it is commonly felt at that time of the year in England; "for the pitch did runne downe the ship's sides; and that side of the masts that was to the sunne-ward was so hot that the tarre did frye out of it, as though it had boyled."

At the bottom of a cove, on the south side of the island, they slew about nine hundred or a thousand morses in less than seven hours; and such was the quantity of these animals killed, that by the 9th they had taken in thirty-one tuns of oil, one hogshead, one barrel, and one tierce of morses' teeth, besides four hundred loose teeth. There was also a second ship here called the *Dragon*, belonging to a brewer of St. Catherine's.

They took on board a couple of young morses, male and female; the female died on the passage, but the male was brought home alive and carried to the court, "where the king and many honourable personages beheld it with admiration, for the strangenesse of the same, the like whereof had never before beene seene alive in England. Not long after it fell sick and died. As the beast in shape is very strange, so it is of strange docilitie, and apt to be taught, as by good experience we often proved."

Another voyage to this island was undertaken in 1609, which is chiefly remarkable on account of formal possession being taken of Cherry Island in the name of the Muscovy Company. On this expedition there was an extraordinary number of bears seen and slain, not to speak of foxes.

The Muscovy Company sent out the following year a

large ship of 150 tons, of which Stephen Bennet was master, and Thomas Edge factor, "for the killing of the whale;" and as this appears to have been the first voyage undertaken expressly for that purpose, it is stated that "they had bin at the charge of procuring of sixe men of Saint John de Luz accustomed to that function."

The next year, 1612, the same company of merchants sent out two ships, the *Whale* and the *Seahorse*, under Jonas Poole. On their arrival at Cherry Island they found a ship from Holland, in which one Alan Salowes, an Englishman, was pilot. This was not the first Dutch ship employed on the whale fishery.

From Cherry Island Poole proceeded to Spitzbergen, where he again met with Alan Salowes, who told him that his Dutch employer had "broke his neck down a cliff." Here Poole also encountered one Thomas Marmaduke, of Hull, in a ship called the *Hopewell*, which soon left them and stood to the northward. "This ship," Poole says, "as we were afterward informed, discovered as far as 82°," two degrees beyond Hakluyt's Headland. This is the highest degree of latitude mentioned in any creditable account to which any ship had yet proceeded.

Poole's voyage is chiefly curious on account of the rapid progress which appears to have been made in the art of killing whales by the help of the Biscayans. No fewer than thirteen whales were taken by Poole's ship alone, besides many others by a vessel from London, by another from Hull, and by one from Biscay, having an English pilot on board.

In the year 1613 the same company sent out six ships and a pinnace to fish on the coast of Spitzbergen, in one of which was the celebrated navigator William Baffin. So rapidly had the fame of the fishery spread over the maritime nations of Europe, that no less than eight Spaniards, two Dutchmen, four Frenchmen from Dunkirk, besides some Biscayans, were this year assembled

in the sea of Spitzbergen ; one of the ships of Biscay being seven hundred tons, and others from two to three hundred tons. "The first," says Baffin, "we expected would have fought with us, but they submitted themselves unto the generall." The English having taken possession of the whole country in the name of his majesty, prohibited all the others from fishing, and sent them away, excepting those to whom they were pleased to grant leave to remain.

On the 6th of September all the ships arrived safely in the Thames, with a good store of oil and bone.

This successful voyage induced the company to send out in 1614 ten ships and two pinnaces, besides the *Thomasine*, intended for discoveries, under the orders of Robert Fotherby. Baffin was likewise on this voyage ; but the relation of it is given by Fotherby, and contains nothing deserving of particular notice. Being much hampered with ice, the ship intended for discovery got very little beyond the north-eastern extremity of Spitzbergen. Baffin was again, in 1615, sent on northern discovery in the pinnace called the *Richard*, of twenty tons, but got no farther north than Hakluyt's Headland.

We find Baffin in favour of combined efforts in the way of discovery ; he thought that "£150 to £200 at most" might profitably be risked by his London supporters "till some further discovery be made of the said seas and lands adjacent." A little pinnace with a crew of ten men was, he thought, quite sufficient for the purpose.

For several years after this the whale fishing proved successful, till at length the Dutch fairly drove the English from this lucrative branch of trade.

The discoveries of Hudson and Baffin in the beginning of the seventeenth century roused the Danes to exert themselves. In the year 1619 Christian IV. caused two ships to be fitted out on a voyage of discovery, the command of them being given to an experienced seaman of the name of Jens Munk. The vessels, it would seem, were chiefly manned

with English sailors. Munk left Elsinore on the 18th of May, and on the 20th of June made Cape Farewell, and endeavoured to stand up Davis's Strait, with the intention, as it would seem, of pursuing the track of Baffin and Bylot; but he found his vessels so perpetually hampered with ice, that he returned along the coast to the southern extremity, from whence he passed through Hudson's Strait.

He made the coast of America in $63^{\circ} 20'$, when meeting with much ice he was compelled to seek for shelter in an opening in the land, which he called Munk's Winter Harbour. To the surrounding country he gave the name of New Denmark. The year being far advanced, for he had entered the harbour on the 7th of September, Munk resolved to winter there. He built huts for himself and his people, and then began to explore the country, which luckily afforded a plentiful supply of white bears, white foxes, hares, and partridges.

On the 27th of November three distinct suns appeared in the heavens, and on the 24th of January they saw two, equally distinct. On the 18th of the preceding December there was an eclipse of the moon, and the same night this luminary was environed by a transparent circle, within which was a cross, cutting through the centre of the moon, and quartering it; this phenomenon was regarded as the harbinger of those misfortunes which soon befel them.

The frost set in with such severity that the wine, brandy, and beer, were entirely frozen, and the casks burst with the intense cold. The scurvy began to make its appearance among the crews of the two vessels, consisting of forty-eight persons in the one, and sixteen in the other.*

The spring of the year brought with it no relief to their misery. Their bread and provisions were exhausted, and none of them had strength enough to take any of the

* In a Danish MS. it is said that the disease was mostly occasioned by the almost unrestrained use of spirituous liquors, which are known to be particularly destructive in a cold climate.—*Barrow*.

ducks, geese, partridges, and other fowl which came around them in infinite multitudes. They were reduced to a most helpless and deplorable state, and the mortality became almost general.

Towards the beginning of the month of May, 1620, those who had survived had the misery of knowing that the whole of their provisions were consumed, and that famine was now added to disease. They had no strength left to pursue the animals which surrounded them.

Munk himself, reduced to the last extremity, remained alone in a little hut in so hopeless and desponding a state, as to expect nothing but death. At length, however, pressed by hunger, he had the resolution to crawl out of his hovel and inquire into the fate of his unhappy companions; he found only two alive, all the rest having perished. These three men encouraged each other to make an attempt to procure some species of food; they scratched away the snow and found some plants and roots, which they eagerly devoured. By degrees they were able to take fish in the river, as the ice disappeared, and birds, and other animals. They now thought of getting home, and for this purpose equipped the little vessel from the stores in the large one; they repassed Hudson's Strait, and after a stormy passage, in which the ship was almost abandoned to herself, arrived safely in a port of Norway on the 25th of September.

They were received in Denmark as men risen from the grave; and the recital of their adventures and sufferings created a general sympathy in their favour. Such indeed appears to have been the interest excited by these new discoveries that Munk, notwithstanding his sufferings, once more proposed to make the attempt to discover a North-west Passage. A subscription was set on foot for that purpose, and everything was made ready for his departure. On taking leave of the court, the conversation turned on the misfortunes of his former enterprise, and the king, in

admonishing him to be more cautious than in his last voyage, seemed to ascribe the loss of his people to some mismanagement. Munk felt this reproof deeply, and answered in a way less respectful than that to which the royal ear had been accustomed, and the king, out of temper, struck him with his cane. The indignity thus sustained by the unfortunate navigator was never to be effaced, and he is said to have taken to his bed and died a few days afterwards of a broken heart.

The long period of warfare which closed in 1815 with the battle of Waterloo suspended all attempts at northern discovery. No sooner, however, did the European world begin to feel the blessings of peace than the spirit of discovery revived. Expeditions were sent forth to every quarter of the globe.

It is to the honour of a Russian nobleman of large fortune that at his own cost he fitted out a ship for the purpose of ascertaining whether the sea on the northern coast of America afforded a navigable passage between the Pacific and Atlantic Oceans; that nobleman was Count Romanzoff. The vessel prepared for this undertaking was called the *Rurick*, and Lieutenant Kotzebue, son of the celebrated writer of that name, was appointed to command her. She was of small tonnage, and manned with twenty-two men, officers included, a surgeon and botanist. Kotzebue's instructions were to proceed round Cape Horn, and make the best of his way to the north-west coast of America, pass Behring's Strait, and endeavour to find some bay or inlet on the American side to lay up his vessel in safety, while, with a certain number of his crew, he should penetrate the American continent by land; first to the northward, to ascertain if Icy Cape was an island, and then to the eastward, keeping the hyperborean sea on their left, and carrying with them light skin boats or *baidars*, to enable them to pass such lakes or rivers as might intervene.

Having passed Cape Prince of Wales early in August,

without any obstruction from ice, an opening was observed in the line of the American coast, in latitude about $67\frac{1}{2}^{\circ}$ to 68° . Into this inlet the *Rurick* entered. Across the mouth was a small island, the shores of which were covered with driftwood; and among it were observed trees of an enormous size. The tide regularly ebbed and flowed through the passages on each side of the island. Within the entrance, the great bay or inlet spread out to the north and south, and had several coves or sounds on each shore. Its extent to the eastward was not determined, but the *Rurick* proceeded as far in that direction as the meridian of 160° .

The shores of this great inlet, and more particularly the northern one, were well peopled with Indians of a large size; the men were armed with bows, arrows, and spears. They wore skin clothing and leather boots, neatly made and ornamented; their huts were comfortable, and sunk deep into the earth; their furniture and implements neatly made; they had sledges drawn apparently by dogs, though the skulls and skins of reindeer indicated the presence of that animal in the country.

The description given by Lieutenant Kotzebue of these people corresponds almost exactly with that of the Tschutski by Cook on the opposite continent, with whom they sometimes trade and are sometimes at war.

From these Indians Lieutenant Kotzebue learned that at the bottom of the inlet there was a strait through which was a passage into the great sea, and that it took nine days "rowing with one of their boats to reach this sea." This Kotzebue concluded to be the great Northern Ocean.

At the bottom of the cove on the northern shore of the inlet was an extensive perpendicular cliff, apparently of chalk, of the height of six or seven hundred feet, the summit being entirely covered with vegetation. Between the foot of this cliff and the shore was a strip of land, five or six hundred feet wide, covered with plants of the same kind as those on the summit. But the extraordinary

feature remains to be told : when our travellers approached this extensive cliff, they found that it was actually a mountain of solid ice, down the sides of which the water was trickling by the heat of the sun.

At the foot of the cliff several elephants' teeth were picked up, similar to those which have been found in such immense quantities in Siberia and the island of the Tartarian Sea. These teeth Kotzebue concluded to have fallen out of the mass of ice as its surface melted, though no other part of the animal was discovered by him. There was, however, a most oppressive and disagreeable smell of animal matter, not unlike that of burnt bones, so that one hurried to escape from the neighbourhood of those parts of the mountain where the water was trickling down.

Our navigators managed to scramble to the summit, and to make a collection of the plants that grew upon it. The stratum of soil which covered it was not deep, and the lieutenant describes it as being of a calcareous nature. The slip of land at the foot of the mountain was probably formed of the soil and plants which had fallen down from the summit as the ice melted.

Except this mountain of ice, there was no appearance of ice or snow on the land or the water in this part of America. The weather continued clear and mild, and even warm, though on the opposite coast of Asia at the same period it was cold and foggy. There was in fact such a great difference between the temperature of the two continents, on the two sides of the strait, that, in standing across, it was like passing instantaneously from summer to winter, and the contrary. This happened about the end of August, at which time a fair and open passage appeared to lie on the American side, as far to the northward as the eye could reach ; whereas on the Asiatic side the ice seemed to be fixed to the shore, and its outer edge to extend in the direction of north-east, which was precisely that of the current.

The season being too far advanced either to attempt to carry the *Rurick* round Icy Cape, or to prosecute the land journey to the eastward, and fearing if he remained longer in the great inlet the entrance might be closed up with ice, he thought the most prudent step he could take would be that of proceeding to winter and refit in California, and early in the following spring to renew the attempt to penetrate into the interior of America.

He accordingly set out again early in March, called at the Sandwich Islands, and reached the Aleutian Islands in June, where the *Rurick* suffered much from a violent gale of wind, in which Lieutenant Kotzebue unfortunately had his breast-bone broken. This accident threw him into such a state of ill health, that after persevering till they reached Eivoogiena or Clerke's Island, at the mouth of Behring's Strait, the surgeon declared that nothing but a warmer climate would save his life. He was thus reluctantly compelled to return with his little bark, and to make the best of his way home round the Cape of Good Hope.

It is greatly to the credit of Lieutenant Kotzebue, that after a voyage of three years, in every variety of climate, he brought back again every man of his little crew, with the exception of one who embarked in a sickly state.

The Swedes had never done anything in the way of arctic exploration till 1858. In this year they resolved thoroughly to explore the group of islands known as Spitzbergen. Spitzbergen had long been visited by civilized mankind, and was very familiar to whalers. About three hundred years ago the Dutch erected a blubber-boiling village, called Smcerenberg, on the shores of one of the bays which then abounded in whales. The whales have now fled the coast, and with the exception of some Norwegian and Russian walrus-hunters, who winter on the island, it is now but little frequented.

In 1858 Professor Otto Torrell explored the western

shores of Spitzbergen, and hardly a year has passed without thoroughly equipped expeditions, with large staffs of scientific men, either exploring these islands, or endeavouring to penetrate to the north from them as a basis.

"In 1861," says an able writer, "an expedition, consisting of two vessels, visited the western and northern shores. The result of their researches was a topographical map of the island, and the measurement of an arc of the meridian, besides many valuable natural history collections. In 1864 an expedition, also at the public expense, explored the southern portion, under the direction of Professor Nordenskjöld. In 1868 still another expedition went to the north at public expense, the funds being collected in a few days in Gothenberg. To show how thoroughly it was equipped, it may be mentioned that two geologists, three zoologists, two botanists, four physicists, a physician, besides naval officers, a conservator, and six dredgers, accompanied it. On this occasion they reached the latitude of $81^{\circ} 42'$, but found none of the rumoured open water which is said to exist in the north. No one has ever yet reached so far as Parry; but, unlike Parry, they have added by their scientific researches to the sum of human knowledge, and the mere failure of the topographical aims of the expedition is therefore the less noticed. They were *truly* geographical expeditions, not mere attempts to lengthen a streak on a map. During 1872-73 Nordenskjöld again attempted to reach the high north, but without any very marked success. The result of these Swedish expeditions is, that the scientific history of Spitzbergen is probably more accurately known than that of many portions of Sweden itself. They were models of what a geographical exploration should be; not 'Hamlet' with Hamlet's part omitted—scientific expeditions without science."

In 1867 a mountainous country of considerable extent was discovered by Captain Long, in the Polar Sea, beyond the Straits of Behring.

Behring's Strait, on the far western side of the American continent, had been little disturbed since Collinson and McClure sailed through its portals in search of Franklin, and by means of which the latter officer had the good fortune to sail right along the northern shores of America, and discover the North-west Passage. The year 1867 proved a remarkably open season. Captain Long and other American whalers sailed north in search of their gigantic game to about latitude 70° , where they were stopped by the ice. In front of them lay what seemed part of a new arctic continent; but though they coasted along it they failed, on account of the ice, to reach the wished-for shores. They could see peaks and what seemed to be volcanoes, and from certain signs believed that it was inhabited.

"This land has been called Wrangell's Land, and is believed to have been the land seen by Baron Wrangell from Cape Jakan on the Siberian coast, from which it is distant about seventy miles. The natives declare that it can be seen on clear days, and that Siberians have started over the ice in the winter in their dog-sledges to reach it, but have never returned. Long before Wrangell's day, viz., in 1645, Deshneff, a Cossack, sighted this mysterious arctic continent, regarding the nature of which we may long remain ignorant. Perhaps, as Dr. Petermann thinks, it may be an extension of Greenland over the Pole. Be that as it may, it is a strange thought that if inhabited it may never be seen again for generations—that the fur-clad inhabitants may even now be talking of the strange bird-like monsters which were seen so many snows ago moving along its shores, and that after a long period, when the tale has lapsed into the condition of a myth, the mysterious beings may again make their appearance with their wonders of wood and iron, knives, and the black powder which kills the white bear, the seal, and the walrus."

In 1869 the generally inaccessible Sea of Kara was so free from ice that Captain Carlsen and Captain Palliser

were able to navigate it as far as the mouths of the Obi. This was a feat which it was said had only been performed once before.

The year 1874 witnessed also another expedition to the north polar regions. "It had more of a commercial object," says the *Athenæum*, "than its predecessors, but it was nevertheless as much a polar expedition as those that sailed under Buchan, Parry, and others, and endeavoured to discover a North-west Passage as a short road to Cathay and the east."

In May, 1874, Mr. Wiggins, an enthusiastic advocate and volunteer for polar exploration, chartered the *Diana*, a steam-yacht, for a voyage to the polar regions, the object of which was to ascertain the possibility of commercial intercourse between Europe and Central Asia by the Kara Sea, and of opening up a market for the great mineral wealth believed to exist in those regions.

When the *Diana* arrived at Hammerfest, Captain Wiggins was warned by the Norwegians that he could not hope to enter the Kara Sea; but having chartered his vessel, the British commander was not to be turned back by a report or an opinion, however well founded. He persevered, and reached Waigatz Strait on the 26th of June, in which there was but little ice. On the east coast of Samoyede Land there was neither ice nor snow, the land being covered with moss and flowers, and having the appearance of a newly-mown lawn.

At Latke Island the vessel was detained by ice for three weeks, and she then steamed up the Gulf of Mutanier (Mudely Gulf). On the 1st of August the *Diana* was off the Gulf of Obi. White Island, to the westward of the gulf, was found considerably out of position. On crossing the entrance to the gulf, the expedition discovered a sand island nearly level with the water, and the water generally was very shallow. Strong currents were also experienced.

As the *Diana* was only victualled for the season, Captain Wiggins decided to make the best of his way to the

west side of Nova Zembla, with a view of assisting the Austrian expedition, and on the 30th of August was at Kostin, and not finding or hearing anything of the *Admiral Tegethoff*, he left Kostin, and reached Hammerfest just an hour before the arrival of the Austrian explorers. Captain Wiggins finally arrived at Dundee, the port from which he had sailed, on the 26th of September.

Alluding to this voyage, and to the purpose which it had in view, a writer in the *Athenæum* remarks that, "although Captain Wiggins has, in a measure, failed in his attempt, the conclusion is not to be drawn that because in one season the ice and weather bar the passage to the desired position, another is to be the same;" and it is well known that the season of 1874 was unusually severe in the north.

In 1875 Sweden again sent out an arctic expedition, of which the leading spirit was the learned Professor Nordenskjöld, whose name has already appeared in our narrative (*see* pp. 61, 374, etc.). The exploring ship, the *Pröven*, left Tromsö on the 8th of June, and arrived at Nova Zembla on the 22nd. At the end of June our voyagers sailed through Gregor Sound into Kara Sound.

On the 8th of August they landed on the north-west coast of Yalmal. On the beach they found traces of men. They came across an altar built of a heap of bones, in the centre of which were raised two roughly hewn idols, that had been smeared with blood over the eyes and mouth. Close by were discovered a fireplace and a heap of reindeer bones, apparently the remains of a sacrificial banquet.

They afterwards sailed to the north, until in latitude 75° 30' N. they were stopped by the ice. They then made for the Yenesei. The *Pröven* was sent back to Norway, and Professor Nordenskjöld with some companions returned home by Siberia.

The expedition was considered a great success, as no government expedition, either from England, Holland, or Russia, has got so far as the mouth of the Yenesei.

CHAPTER XXIV.

THE AUSTRO-HUNGARIAN EXPEDITION OF 1872-74.

THE OBJECT OF THE EXPEDITION—STRUGGLING AGAINST THE ICE—
FROZEN UP—PREPARATIONS FOR WINTER—FAREWELL TO THE SUN
—POLAR LIGHTS—ATTEMPTS TO GET FREE—DRIFTING ABOUT
WITH THE ICE—A MOUNTAINOUS COUNTRY DISCOVERED—THE
SECOND WINTER—SLEDGE EXPEDITIONS—FRANCIS JOSEPH'S LAND
—A NEARLY FATAL MISHAP—THE FARTHEST POINT REACHED—
ABANDONING THE SHIP—SLOW PROGRESS—LANDED IN NORWAY.

THIS chapter is to be devoted to the most interesting and important Austro-Hungarian expedition of 1872-74. A graphic account of this expedition was given in a paper by Lieutenant Payer, read before the Royal Geographical Society, on the 10th of November, 1874. From it we draw the following narrative. The object, it may be mentioned, by way of commencement, of the expedition, was not to search for the unknown country which a preliminary expedition,* undertaken in 1871, had made it likely would be found to the north of Nova Zembla, but to discover a North-east Passage. The expedition failed to find out the North-east Passage, and the unknown country referred to was discovered instead.

The *Tegethoff*, a screw steamer of 300 tons, left Bromerhaven on the 13th of June, 1872, furnished with stores and provisions enough to last for about three years. Including Captain Carlsen, the well-known Norwegian navigator, who joined the expedition at Tromsø, in the capacity of ice-mate and harpooner, the crew numbered twenty-four

* In this preliminary expedition, Lieutenant Weyprecht and Mr. Payer embarked in a small sailing vessel of only 40 tons measurement, and extensively explored the sea between Spitzbergen and Nova Zembla. They actually reached the very high latitude of 79° N.

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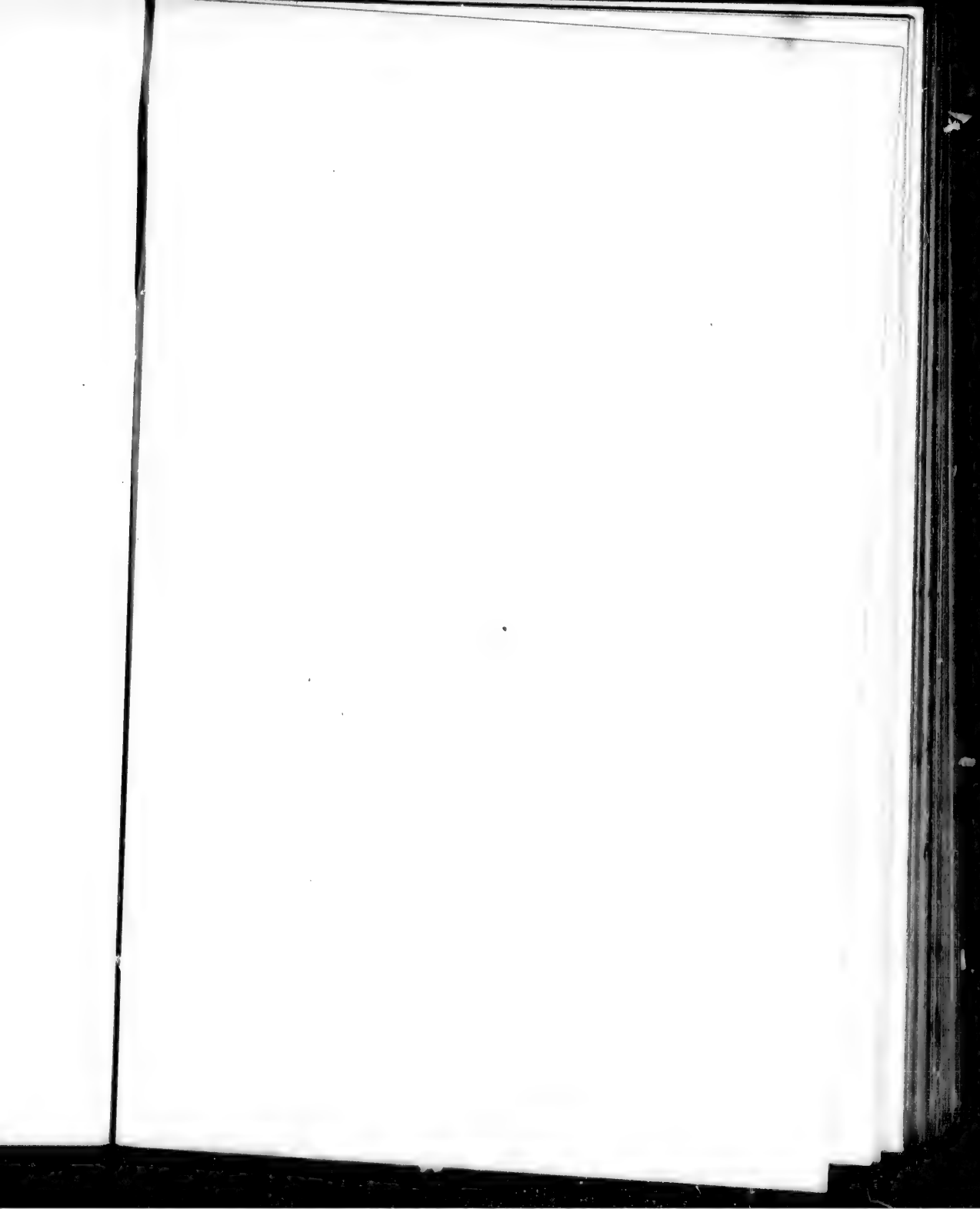
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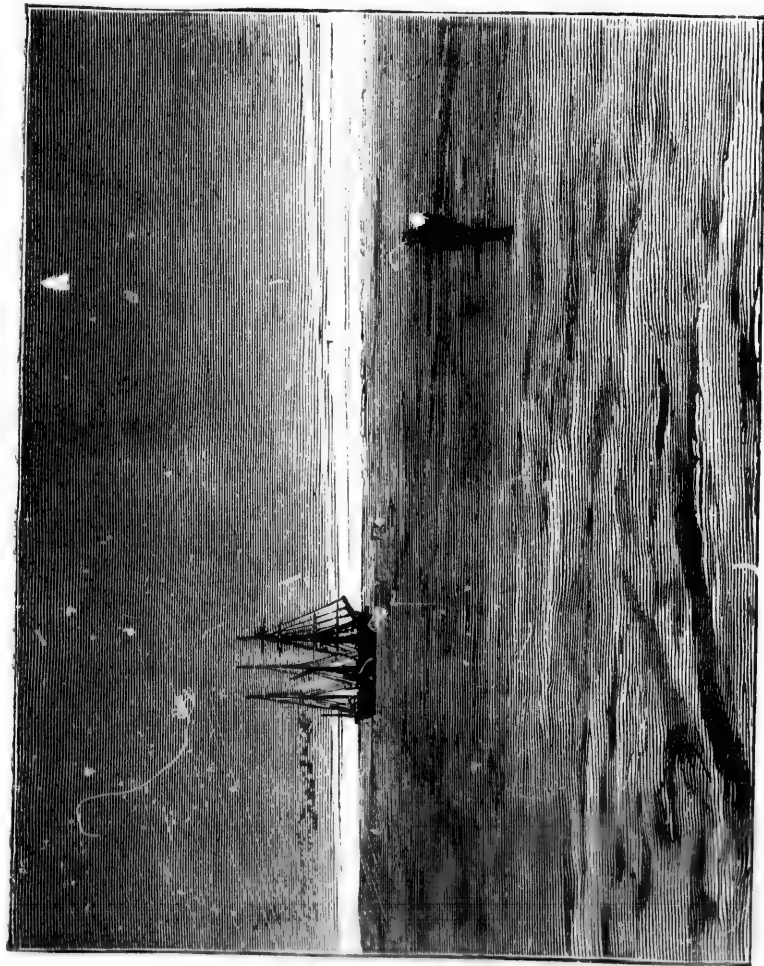


THE PILOT OF THE "TEGETHOFF."

Ice-World Adventures.

[Page 378.]





Ice World Adventures.]
THE "T-GETHOFF" ENCLOSED IN THE ICE.

men all told, amongst whom were sixteen Dalmatian seamen.

The course taken was towards the north-east, and in a few days the ships doubled the North Cape, and on the 25th of July, in $74^{\circ} 30'$ N. lat., and 48° E. long., the explorers reached the edge of the packed ice, the unexpected southern position of which they had every right to look upon as a bad omen.

Masses of ice seriously interrupted their progress. Large floes, separated by navigable lanes of water, were rarely met with, but there were immense quantities of broken fragments. Early in August the ship was actually beset for a few days, and unable to move. Subsequently, however, liberty was regained, and in latitude 75° N. open water was reached, extending along the coast of Nova Zembla. The crew fought their way along the coast, passed through a second barrier of ice, and reached open water again in the latitude of William Island. When a little south of that island they were overtaken by the yacht *Isbjörn*, in which Count Wilezek had effected a difficult passage from Spitzbergen, in order to establish a dépôt for their use near Cape Nassau.

The two vessels kept company as far as the low Barentz Islands, where compact masses of ice, driven by south-westerly winds towards the coast, barred all progress for a week. Only on the 21st of August, the ice having exhibited symptoms of breaking up, they separated, and the *Tegethoff* steamed slowly away to the north.

But their hopes were vain. Night found them encompassed by ice on all sides—encompassed for two long and dreary years. Cheerless and barren of all hope the first year lay before them, for they were no longer discoverers, but doomed to remain as helpless prisoners on a floe of floating ice.

The unusually severe frost of the autumn of 1872 soon solidified the surrounding fragments of ice, and neither

sawing nor blasting could effect their release. At the mercy of the winds they drifted towards the north-east.

Their position was now sufficiently miserable, but on the 13th of October it became gloomy in the extreme. On that day the lethargy in which everything around had so long been buried suddenly gave way to active commotion, and thenceforth they were exposed to the fearful pressure of the ice. Many a time they were summoned to save themselves in case of the vessel foundering, and all this in the midst of a polar night, and without knowing whither to turn for safety. The vessel, however, bravely withstood the pressure, though the floe upon which it was fixed had been uplifted by others which had forced their way under it, thus raising her aft, and causing her to lean over on the larboard side.

Preparations for passing the winter had been made by this time. The deck was covered with snow, an awning was spread from the mainmast forward, and a rampart of ice was fixed round the ship. Special care was taken to keep the crew employed. Watches were set regularly, exercise was taken, and school kept. On Sundays the members of the expedition met for a single but impressive divine service under the awning, when the Bible was read in Italian by the light of a train-oil lamp.

Meteorological observations were made regularly, the observers relieving each other every two hours. The uncertainty of their position rendered it necessary to keep a watch constantly on deck, and the pleasantest duty of the watch was to announce the approach of ice-bears, whose flesh formed a most important addition to the diet of the crew.

The sanitary condition of the men during the first winter left much to be desired. Scurvy and affections of the lungs made their appearance, in spite of every precaution, the former partly on account of the occasional congelation of the damp covering the cabin walls, and partly owing to

mental depression brought on by their critical position, and which only disappeared when their prospects became more hopeful, and the summer's work kept every one fully occupied.

The small stock of wine was reserved for the use of the sick. The rest contented themselves with a daily allowance of artificial wine prepared on board from glycerine, sugar, meat extract, tartaric acid, alcohol, and water. A small plank, suspended over the stove, supplied every week a little cress and cabbage for the scorbutic. The dogs, seven in all at that time, were lodged on deck in boxes filled with straw. They were fed at first with dried horse flesh, and subsequently on the flesh of seals and bears.

On the 28th of October the sun disappeared below the horizon, not to rise again for 109 days. All the birds had left, and for weeks it was next to impossible to leave the ship. The polar night was rarely of that indescribable clearness which has been noticed on land, and as Lieutenant Payer says he has himself seen on the coast of Greenland. Fine snow fell almost continuously.

"A hut of coal," says Lieutenant Payer, "had been built on the ice to serve as an asylum in case of the vessels being lost; but it was destroyed by a movement of the ice on Christmas eve, and we considered ourselves fortunate in being permitted to spend Christmas day itself in undisturbed tranquillity, occupied with the thoughts of home.

"The first day of the new year brought with it no prospect of an early release. We were still drifting towards the north-east, and even imagined that we might be carried to the coast of Siberia. Fate, however, had ordained otherwise; for after we had crossed the 73rd degree of longitude the wind shifted, and thenceforth, helpless as before, we drifted to the north-west.

"On February 16th the sun again made its appearance above the horizon. The cold continued to be severe; but this cold is borne easily, as the cabin affords ready means

for warming oneself, and consequently several of our men only reluctantly put on their fur clothes when ordered on deck.

"The polar lights in their ineffable beauty illumined the heavens during the whole of the winter, but diminished in frequency as the days grew longer. They generally appeared in the south, and only rarely was more than one corona seen in the same night. After the beginning of September they were the only excitement which we received from without. Like mighty streams they rushed over the firmament, sometimes from west to east, at others in a contrary direction; and the corona vanished as rapidly as it appeared. They were most intense between eight and ten in the evening, and their appearance was never attended by noise. Magnificent lights were generally forerunners of bad weather.

"In the summer of 1873 our hopes of an early disruption of the floe, and consequent liberation revived. Our hopes were based upon the evaporation of the ice, caused by the powerful effect of the sun, and upon its destruction by wind and waves, but not upon its melting in a sea the surface temperature of which never was above freezing point. The progressive conversion of the surface ice into sludge was witnessed by us from day to day, the cliffs and walls of ice crumbling away and evaporating until nearly the whole surrounding sea was covered with a thick chaotic layer of sludge.

"We made fresh efforts to regain our liberty; but our floe, which had attained a thickness of forty feet in consequence of other floes forcing themselves underneath, rendered all our attempts futile. The centre of our vessel and the uplifted part abaft remained immovably fixed upon the floe. Our hopes that the ice would break up grew less and less every day, though the familiar grating sound which proceeds from ice giving way was heard frequently, and dark streaks on the horizon pointed to the existence of open fissures. We had already resigned ourselves to the neces-

sity of being obliged to pass a second winter, as inactive and perilous as the first, when the state of affairs all of a sudden underwent a change in our favour."

The explorers were drifted within sight of land on the 31st of August. Towards the end of October they approached an island lying outside the main mass of land. They made their way to it. "An island more desolate," says Lieutenant Payer, "than that which we had reached can hardly be imagined, for snow and ice covered its frozen and debris-covered slopes. But to us it was of such importance that the name of Count Wilezek, the originator of our expedition, was conferred upon it.

"During the first half of October," our narrator continues, "we still suffered seriously from the pressure of the ice. Our floe was shivered into fragments, and it almost appeared as if the anxious days through which we had passed were about to return. In expectation of an unfortunate issue we took the same measures of precaution which we had taken during the preceding winter, and were ready to leave the ship at a moment's notice. Fortune, however, did not again forsake us, and we were permitted to pass the second polar night without suffering the horrors of the first. There occurred no further pressure from the ice, and our harbourless vessel fixed to its floe, and surrounded for the first time by icebergs, remained immovable, close within the outer edge of the land-ice, and at a distance of three miles from the nearest coast.

"In January the cold set in again exceedingly severe, and the mercury remained frozen for more than a week. The snow became as hard as pumice, and its surface granular. The petroleum in the glass lamps under the awning froze, the lamps went out, and even our cognac was changed into a solid mass.

"The visits of bears were as frequent then as they had been at other seasons of the year; they came close up to the ship, and were killed by regular volleys fired from deck.

The bears here are certainly much less ferocious than those we met with in Eastern Greenland, where they not unfrequently attacked us, and on one occasion even carried one of the crew out of the ship. Here they generally took to flight as soon as we made our appearance. With respect to the disputed question whether bears pass the winter in a dormant state or not, we observed that amongst the greater number shot by us during two winters there was not a single female, and during our second sledge expedition, in the spring of 1874, we even discovered a tunnel-shaped winter-hole in a snow-cone, lying at the foot of a cliff, which was inhabited by a female bear and her cubs. A portion of the flesh of sixty-seven ice-bears which we killed, amounting altogether to 12,000 lbs., proved to be the most efficient remedy against the scurvy, from which several of our men were again suffering."

In the beginning of March the explorers resolved to make an examination of the country, on the shore of which they lay, by means of sledge expeditions. They found it far poorer than Greenland, Spitzbergen, or Nova Zembla, and excepting in the antarctic regions, no country exists which is poorer in every respect. The general physiognomy of the flora (but not that of the species) resembled that met with in the Alps at an altitude of 9,000 or 10,000 feet. The season during which they visited the country was certainly that in which vegetable life first puts forth its appearance, and most of the slopes were still covered with snow; but even the most favoured spots near the sea level, which were no longer covered with snow, were unable to induce them to arrive at a different conclusion. On level spots they scarcely met with anything but poor and solitary bunches of grass, a few species of saxifrage, and *silene acaulis*. Dense carpets of mosses and lichen were more abundant, but most abundant of all was a lichen, the winterly *umbilicaria arctica*. Drift-wood, mostly of an old date, was met with on many occasions, but only in very

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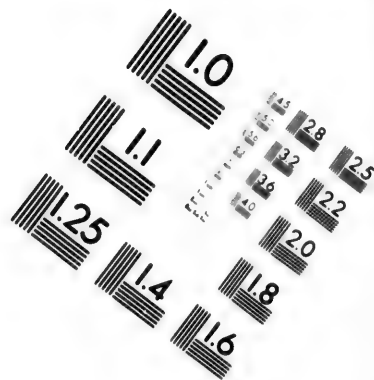
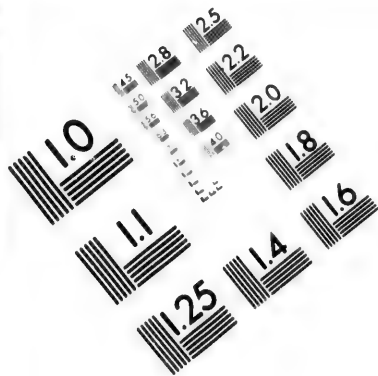
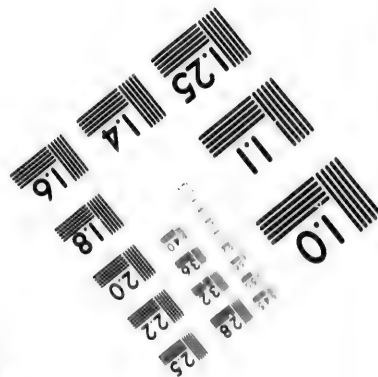
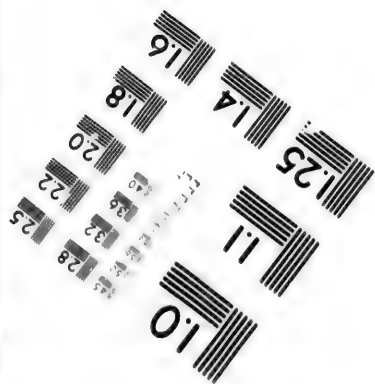
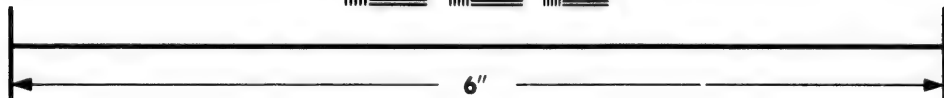
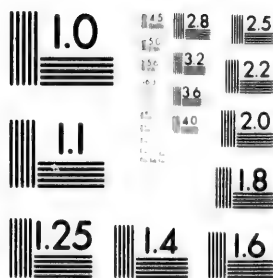


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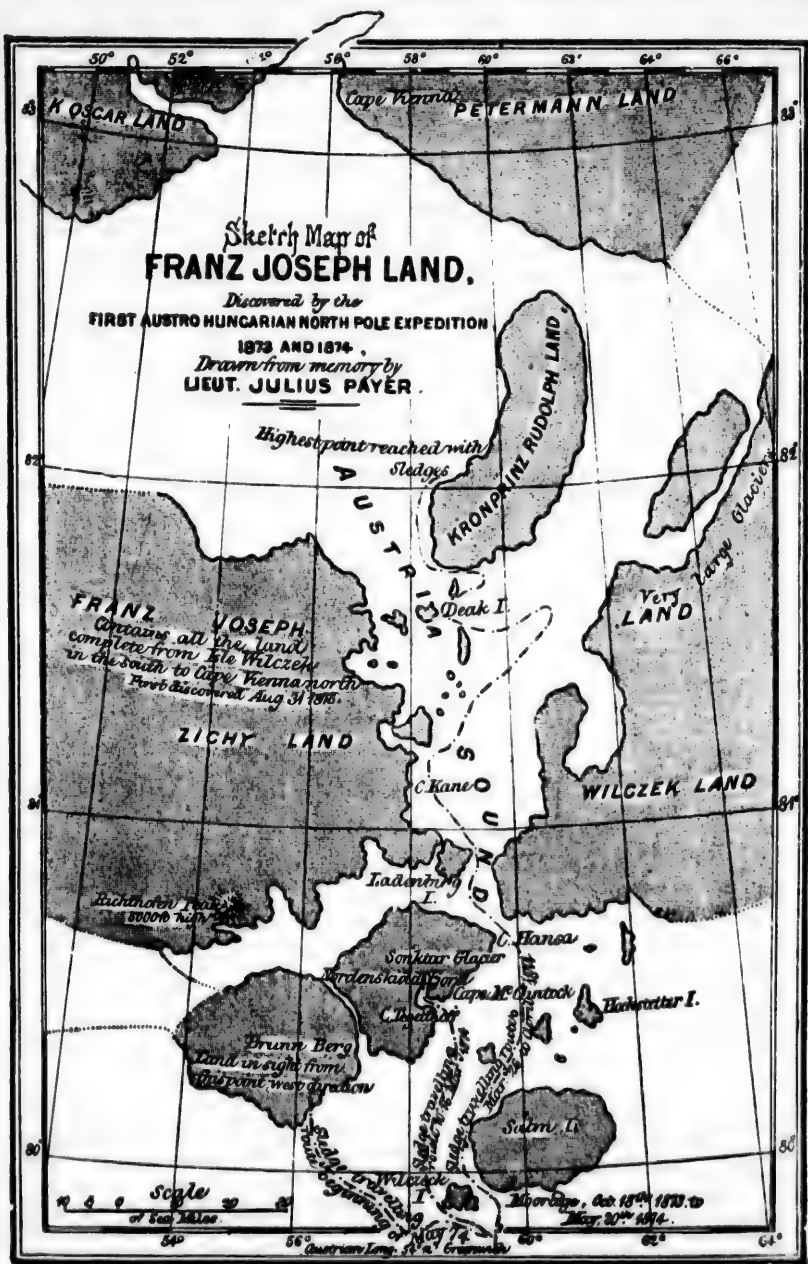


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FRANZ JOSEPH LAND.

small quantities. They once saw, lying only a trifle higher than the water-line, the trunk of a larch, about a foot thick and some ten feet in length. The drift-wood, like their vessel, had probably been carried to these latitudes by the winds—in all likelihood from Siberia—and not by currents. The country, as might be supposed, had no human inhabitant, and in its southern district scarcely animals, excepting ice-bears, were met with. Many portions of it were extremely beautiful, though it bore throughout the impress of arctic rigidity.

The explorers called the whole of the country discovered by them Francis Joseph's Land, after his majesty the Emperor of Austria.

On their second sledge expedition some of the party met with an adventure which had nearly proved fatal to them. They were crossing a glacier, and after a laborious journey along its terminal cliff had succeeded in gaining the surface. But they had not gone a hundred paces when an immense crevasse swallowed up dogs, men, and sledge. Fortunately Lieutenant Payer escaped the fate of the rest by cutting through his harness. He was unable to do anything single-handed, but he had a reserve party about twelve miles distant. He ran back, and quickly returned with them. By means of long ropes, men, dogs, and sledge were raised to the surface, when no one was found to be seriously injured.

The journey of which this incident formed a part proved to be of singular interest. Not long after leaving the glacier our discoverers witnessed a most striking change in the appearance of nature. A water-sky of a dusky colour made its appearance in the north; foul yellow vapours collected below the sun; the temperature rose; the ground under their feet became soft; and the snow-drifts broke under them with a rumbling noise. They had previously noticed the flight of birds from the north,—here they found the rocks covered with auks and divers. They rose before

them in immense swarms, and filled the air with the noise of their vehement whirring, for breeding time had arrived. Traces of bears, hares, and foxes were met with everywhere, and seals reposed sluggishly on the ice.

They reached a cape called by them Cape Auk; it resembled a gigantic aviary. Next they came to the two lonely rocky towers of the Cape of Columns. Here they first found open water extending along the coast.

"The distant world," says Lieutenant Payer, "was sublime in its beauty. From a height we looked down upon the dark sheet of open water, dotted with icebergs, like so many pearls. Heavy clouds hung in the sky, through which penetrated glowing rays of the sun, causing the water to sparkle, and above was reflected the image of another sun, but of a paler hue.

"At an apparently immense height the ice-mountains of Crown Prince Rudolf Land, bathed in a roseate hue, stood out clearly visible through the rolling mists."

After having reached $82^{\circ} 5' N.$, the explorers halted. At this, the farthest point reached by them, they planted the Austro-Hungarian banner, and deposited a document stating that they had been there, for the benefit of any adventurers who might afterwards pass that way. Then they turned back towards their vessel, which lay some 160 miles to the south.

A third sledge journey was devoted to an exploration of an extensive island, to which the name of M'Clintock Island was given. When about forty miles to the west of the ship our discoverers ascended a high mountain, from which they surveyed the country as far as about longitude $46^{\circ} E.$ It was mountainous in character, and one peak was about 5000 feet in height.

When this journey was over, preparations were made for abandoning the ship and attempting to make their way homewards. The exciting conclusion of the interesting story is thus given by Lieutenant Payer :—

"On the 20th of May, in the evening, the flags were nailed to the mast—an affecting scene for all of us, and we started on our return home. Our equipment was of the simplest, for circumstances forbade anything approaching to luxury, and in addition to the clothes he wore on his back the personal property of each member of the expedition was limited to a blanket to sleep in.

"The provisions, ammunition, etc., for three or four months were packed in three, subsequently four boats, placed on sleighs and in three large sledges, each weighing about $17\frac{1}{2}$ cwt. Only the two strongest of our dogs were alive at that time; but even this small contingent proved to be of great service, for they pulled nine to ten cwt. between them.

"The deep snow which was encountered on first starting compelled us to travel as many as five times over certain distances, for it required the united strength of our whole party to drag a single sledge or boat. Having reached the end of the land-ice we had to clamber with our boats and sledges from floe to floe, and sometimes to cross narrow fissures in the ice. Persistent southerly winds, moreover, destroyed the little progress we made, for they drove the ice, upon the surface of which we were travelling, to the north; and after two months of incessant labour we were not more than eight miles from the ship. It almost appeared to us as if our struggle with the ice would end in a defeat, which would compel us to remain a third winter in our ship, uncheered by a ray of hope.

"The ice around us was closely packed, and on several occasions we were obliged to lie quietly with our boats upon a floe of ice for an entire week, until it should please some channel to open. Northerly winds set in at length, on the 15th of July, which dispersed the ice to some extent; continuous rains reduced its dimensions, and by almost superhuman exertions we were advanced ten miles in the course of as many days. We were fully convinced by this time

that no vessel could have succeeded in that year to reach the land discovered by us.

"On the 7th of August we observed for the first time a swell coming from the south, an indication of the proximity of open water. This revived our fading hopes, which fell anew when we again became ice-bound for the space of five days; but on the 14th of August we reached the edge of the pack in latitude $77^{\circ} 40'$ N., and our safety seemed thus to be secured.

"Here we were reluctantly forced to abandon our sledges and to kill our dogs, who had been our faithful companions and assistants in times of need, for our boats were hardly large enough to hold ourselves and baggage, besides which we were without any water and provisions for their maintenance.

"Our final salvation is due entirely to finding the edge of the pack ice in so high a latitude. Favoured by the wind, we crossed the open sea in the direction of Nova Zembla, and followed the coast of that island towards the south. On the 18th of August we for the first time placed our feet upon *terra firma*, near the Admiralty Peninsula; and on the evening of the 24th—that is, after a passage of ninety-six days—we found ourselves in the Bay of Downes (latitude $72^{\circ} 40'$), on board the Russian steamer *Nicolai*, Captain Feodor Voronin, who received us with that heartiness which distinguishes the Russian people.

"A speedy passage brought us to Vardö, and at three o'clock in the afternoon of the 3rd of September, 1874, we stepped upon the hospitable soil of Norway, full of that satisfaction which an escape from a position of danger and doubt brings with it."

CHAPTER XXV.

THE ENGLISH EXPEDITION OF 1875.

THE ENTERPRISE OF OTHER NATIONS—REPRESENTATIONS TO THE BRITISH GOVERNMENT—GOVERNMENT RESOLVES TO ORGANIZE AN EXPEDITION—REASONS FOR ARCTIC EXPLORATION—GENERAL SCIENTIFIC RESULTS—MAGNETISM AND PHYSICS—ETHNOLOGY—POLAR GEOLOGY—NATURAL HISTORY—BOTANY—MIGRATIONS OF BIRDS—THE BEST ROUTE TO THE POLE—THE HISTORY OF SMITH'S SOUND.

ON the solution of the fate of Franklin's expedition in 1859, Great Britain withdrew from the field of arctic research. Other nations, however, in this did not follow her example. America, Sweden, Germany, and Austria, from time to time since 1859 have tried to reach the North Pole. Their efforts we have already considered, and the reader will do well to trace the extent of their exploration on the chart of the polar regions inserted in our work.

He will find that America has devoted all her efforts to approaching the North Pole by way of Smith's Sound, at the head of Baffin's Bay. Germany has attacked the Pole by way of the eastern shore of Greenland. Sweden has exerted herself between Spitzbergen and Nova Zembla, and the Austrian explorers who left Norway in 1872 reached the latitude of 82° by sledge journeys.

Whilst foreign nations were thus active in the polar world the scientific societies of Great Britain never lost sight of the subject. They felt that for many reasons, of some of which we shall speak immediately, another expedition should be sent out by this country.

Deputations interviewed the Government of the day; the claims of science were strongly pressed. On the 12th of October, 1874, we find Sir Henry Rawlinson, as President

of the Royal Geographical Society, writing to Mr. Disraeli, drawing attention to the success of the Austrian Polar Expedition which had just returned, and urging that if the views of Her Majesty's Government were favourable to such an expedition, arrangements should be promptly made so as to admit of its sailing in the spring of 1875.

To cut a long story short, Mr. Disraeli as head of the Government answered Sir H. Rawlinson's letter on the 17th of November: "Her Majesty's Government," he said, "have had under consideration the representations made by you on behalf of the Council of the Royal Geographical Society, the Council of the Royal Society, the British Association, and other eminent scientific bodies, in favour of a renewed expedition, under the conduct of Government, to explore the region of the North Pole; and I have the honour to inform you that, having carefully weighed the reasons set forth in support of such an expedition, the scientific advantages to be derived from it, its chances of success, as well as the importance of encouraging that spirit of maritime enterprise which has ever distinguished the English people, Her Majesty's Government have determined to lose no time in organising a suitable expedition for the purposes in view."

This was a memorable act in Mr. Disraeli's official career. The support of the Government was now guaranteed to an expedition to explore the unknown regions round the North Pole. But it may be asked, What is the good of sending out ships, and spending money, and risking men, on such an errand? In answer to this we must refer at some length to a paper addressed to the Prime Minister, enumerating the desirable objects to be attained by renewed arctic exploration. It was a memorandum drawn up by the Arctic Committee of the Royal Geographical Society.

This interesting document stated that the results of scientific importance to be derived from an examination

of the immense unknown area round the North Pole, are as numerous as the region to be explored is extensive. It may be shown that no such extent of unknown area, in any part of the world, ever failed to yield results of practical as well as of purely scientific value; and it may safely be urged that as it is mathematically certain that the area exists, it is impossible that its examination can fail to add largely to the sum of human knowledge.

It is also necessary to bear in mind that the polar area is, in many most important respects, of an altogether special character; affording exclusive opportunities for observing the condition of the earth's surface, and the physical phenomena there to be seen, under certain extreme and singular circumstances, which are due to the relation of this area to the position of the axis of revolution of the terrestrial spheroid, and which have to be considered not only with reference to the present time, but to the earth's past history. It may be, therefore, received as certain that discoveries will be made in all branches of science, the exact nature of which cannot be anticipated.

But there are also numerous objects, that have been stated and enumerated by the presidents and officers of the several scientific societies, the attainment of which make it desirable to despatch an arctic expedition of discovery.

The additional objects are enumerated in the memorandum at great length. In geography it is pointed out that a geographical problem of great importance and interest would be solved by completing the circuit of Greenland. Hundreds of miles of coast-line yet remain to be discovered, and the northern part of Greenland is still utterly unknown.

For fear of being tedious we shall not follow the memorandum in its observations on the important results which are likely to be obtained in the sciences of hydrography, geodesy, and meteorology. Under the head of magnetism and physics it stated that the extension of research into the phenomena of magnetism and atmospheric

electricity, in the vicinity of the Poles, will necessarily be of much scientific importance; and generally, so far as the conditions of the climate and the means of an exploring expedition will permit, investigations in all branches of physics in the proximity of the Pole—where so many of the forces of nature operate in an extreme degree, either of excess or defect—will surely be followed by the acquisition of knowledge, which can only be obtained in those exceptional localities.

The study of the aurora, which is among the most striking phenomena visible on our planet, is almost impossible in low latitudes; while the advance of spectrum analysis has given the means of determining the chemical elements involved, so that all that seems required here is the means of applying this description of observation; and this can only be got near the Pole.

The separation of the terrestrial lines from the truly solar ones in the solar spectrum, as seen from the earth's surface, is another important desideratum, inquiry into which can only be well pursued in high latitudes, where the path of the sun at low altitudes above the horizon gives opportunities for the necessary observations not to be secured elsewhere.

Not the least valuable discoveries of the polar expedition it may confidently be expected will be those made in the science of ethnology, and respecting the distance to which the migrations of tribes of human beings have been extended in the direction of the Pole.

It is a very remarkable fact that human remains have been met with in every part of the arctic regions. No corner of them to which explorers have reached, however dreary and inhospitable it may be, is without these vestiges. Thus ruined huts and fox-traps were found along the whole extent of the Parry Islands, which are all now uninhabited; Scoresby saw recent vestiges of inhabitants at every point of the wild coast of East Greenland

on which he landed; Clavering actually met with two families at the farthest northern point that he reached on the east shore; Kane found the runner of a sledge on the beech, beyond the Humbolt glacier. Men have penetrated, in remote times, to every part of those distant arctic regions which have since been reached with so much labour and difficulty by modern explorers; and there is every reason to believe that isolated tribes—certainly their remains—will be found within the still unknown polar regions. Such tribes will have been absolutely isolated for centuries from every other branch of the human family. As they are unacquainted with the use of metals, their implements must be exclusively of bone, drift-wood, and stone; and here alone can the condition of man be realized and studied, under circumstances analogous to those which surrounded those early races which have often excited our curiosity. The denizens of the Pole, like the men who used the flint implements of Abbeville, are living in a glacial country, and in a "stone age." Researches into the habits and mode of life of these hyperboreans, will, therefore, be of great importance to the sciences of geology and ethnology.

With respect to the advantage to be derived from the study of polar geology, we are told that from the important part extreme cold has of late years been found to have played in the last geological, or glacial period, it would be of much value to have exact observations of the effects produced on the rocks by the intense cold of the northern regions; to ascertain the extent, height, and range of the glaciers: and to note their effects on the surface of the country, and on the different classes of rocks. Again, it would be interesting to determine the extent of the river floods, and the depth of the channels they have excavated in the arctic regions.

A more complete investigation of the geology of the arctic regions is extremely desirable, both for its scientific

importance and the value of its practical results. The existence of carboniferous, jurassic, and miocene rocks is known, but much is needed to be done to obtain complete collections of their organic remains. The existence of a true palæozoic coal formation has been determined, but we require to know its extent and composition.

The mineralogy of the Greenland continent is also important, and the discovery of new veins of cryolite and other valuable minerals is not improbable. Masses of meteoric iron have been recently discovered by the Swedish expedition, extending for a distance of not less than 200 miles; these require further study, and to have their position determined.

With regard to the specific results in natural history which may be expected from the expedition, they are numerous and important. It is now known that the Arctic Ocean teems with life, and that of the more minute organised beings the multitude of kinds is prodigious; these play a most important part, not only in the economy of organic nature, but in the formation of sedimentary deposits, which in future geological periods will become incorporated with these rock-formations, whose structure has only lately been explained by the joint labours of zoologists and geologists.

The kinds of these animals, the relations they bear to one another, and to the larger animals (such as whales, seals, etc., towards whose food they so largely contribute); the conditions under which they live, the depths they inhabit, their changes of form, etc., at different seasons of the year, and at different stages of their lives; and, lastly, their distribution according to geographical areas, warm and cold currents, etc., are all subjects of which very little is known.

In connection with this subject, and indeed inseparable from it, is a similar inquiry into the conditions of life of the microscopic vegetables with which the polar seas

equally swarm, and which both form the food of the microscopic animals and contribute to the sedimentary deposits the siliceous coating of their cells. These siliceous coats are indestructible, and being of irregular geometric forms, and the different kinds having differently and exquisitely sculptured surfaces, may be recognised wherever found, and at all future epochs of our globe. A knowledge of the species inhabiting the Arctic Ocean would throw great light on investigations into the age of the rocks of our own island, and on the late changes of the climate of the northern hemisphere.

With regard to the fish, mollusca, echinodermata, corals, sponges, etc., of the arctic zones, those of Greenland alone have been explored with anything approaching to satisfactory results. A knowledge of their habits and habitats is most desiderated, as are good specimens for our museums. More important still would be anatomical and physiological investigations and observations on those animals under their natural conditions.

In botany very much remains to be done; not perhaps in the discovery of new kinds, but in tracing the distribution of those already known in connection with the existing currents, and with the effects of the cold and warm epochs of the world's late history. It is well made out that the arctic flora comprises three floras; namely, the Scandinavian, American, and Asiatic: but it has only of late years been shown that these floras do not bear that relation to the geographical areas they respectively inhabit which the existing relations of land and sea would lead us to suppose: thus, the West Greenland flora is European, and not American; the Spitzbergen flora contains American plants found neither in Greenland nor in Scandinavia; and other anomalies have been traced which indicate recent changes in the physical geography of the polar land.

Again, in the department of zoology, Professor Newton has drawn attention to the interesting questions with re-

gard to the migrations of birds. The shores of the British islands, and of many other countries in the northern hemisphere, are annually, for a longer or shorter period, frequented by a countless multitude of birds, which, there is every reason to believe, resort in summer to very high northern latitudes, for purposes the most important; and since they continue the practice year after year, they must find the migration conducive to their advantage. There must be some water which is not always frozen; secondly, there must be some land on which they may set their feet; and thirdly, there must be plenty of food, supplied either by the water or by the land, or by both, for their nourishment and that of their progeny.

A very good case it will thus be seen was made out for undertaking a new expedition. The question which came now to be considered was, what was the best route to be selected for making one's way to the North Pole.

Several distinguished arctic officers,* who were members of the Geographical Council, and who had carefully considered the evidence accumulated since 1865 in a special committee, were unanimously of opinion that the route by Smith's Sound was the one which should be adopted with a view to exploring the greatest extent of coast-line, and of thus securing the most valuable scientific results. They recommended the Smith's Sound route for the following reasons:—

“That it gave a certainty of exploring a previously unknown area of considerable extent.

“That it yielded the best prospect of most valuable discoveries in various branches of science.

“That, from the continuity of the land of Greenland and the arctic archipelago southward from the 82nd parallel to the open sea in Baffin's Bay and Davis's Strait, it promised

* Sir George Back, Admiral Collinson, Admiral Ommanney, Admiral Richards, Sir Leopold McClintock, Admiral Sherard Osborn, Mr. Findlay, Mr. Clements Markham.

reasonable security for a safe retreat for the crews of an exploring expedition, should their ships be unable to be extricated from an advanced position."

These opinions were strengthened by the report of the crew of the *Polaris*, which ship, as we have told elsewhere, safely navigated up Smith's Sound 250 miles beyond the point reached by Dr. Hayes's schooner in 1861, and traced the land on either hand as far as $82^{\circ} 16' N.$ She subsequently returned, and although a portion of her crew were separated from her, and took to an icefield in $77^{\circ} N.$, they drifted under the influence of the polar stream down to a point in Labrador (where they were picked up), a distance of 1400 miles. This is the fifth occasion on which the polar current through Smith's Sound and Baffin's Bay has drifted vessels into the Atlantic; proving that the opening called Smith's Sound is a channel with a constant current flowing southward from the unknown area.

The boat's crew from the *Polaris* reported open water at their farthest point to the north, in $82^{\circ} 16' N.$, a milder climate than has been found in more southern positions, and that terrestrial animal life abounded near their winter quarters, in $81^{\circ} 38' N.$, including musk oxen—a point the importance of which cannot be overrated.

Lieutenant Payer, of the Austro-Hungarian Expedition, speaks greatly in favour of this route.

"The success," he says, "of an expedition sent out to attain the highest possible latitude depends largely upon the route selected. The plan of penetrating through Smith's Sound, which has been advocated in England, appears to offer most advantages. The theoretical reasons adduced in favour of this route are seconded most powerfully by the fact that a very high latitude has been reached here on repeated occasions. If an expedition should succeed in reaching a winter harbour in a latitude as high as that reached by the last American expedition, it would then be in position, by means of extensive sledge

journeys along the coast, to reach a latitude in the course of spring, the attainment of which would be attended by far greater difficulties along any other route."

After Government, in November, 1874, had consented to organize a suitable expedition, the Lords of the Admiralty appointed a committee of experienced officers who had served in the polar regions to consider various points connected with it. Among others they discussed the route, and they came to the same conclusion as the authorities before mentioned. The way by Smith's Sound appeared to them by far the preferable, and that for the following reasons:—

"Its southern entrance, in the latitude of 78° , has been found free from ice by the several vessels which have visited it since 1852; of late years the sound has been penetrated for a considerable distance by American exploring expeditions, notably by Hall, who reached and wintered beyond the 81st parallel without much difficulty, and the vessels comprising these expeditions were far inferior in power and equipment to those which will compose the present.

"Smith's Sound is known to have a continuous coast-line on either side up to the parallel of about 82° , the highest point yet reached, with comparatively well determined points, where records of the progress of the expedition could be deposited and dépôts of provisions placed, if necessary. There are likewise the Danish settlements on the west side of Greenland to fall back upon by boats should the expedition be hard pushed, and the steam whalers frequent a high latitude in Baffin's Bay every summer.

"This route, moreover, offers the best, indeed the only promise of a continuous coast-line stretching far northwards, and upon this fact the prospect of reaching the Pole by travelling parties mainly depends. It is the only route, so far as our knowledge extends, where the operation of an

expedition can be confined within such limits that succour would be reasonably certain of reaching it.

"Finally, animal life has been found to exist to a considerable extent in the highest latitude yet reached up Smith's Sound, an advantage which cannot be over estimated as regards the health and comfort of the crews; and, as a matter of fact, Esquimaux are found up to the entrance of Smith's Sound who appear to have a knowledge of regions to the northward; and it is possible that some of their race may be found to exist in a higher latitude than has yet been attained."

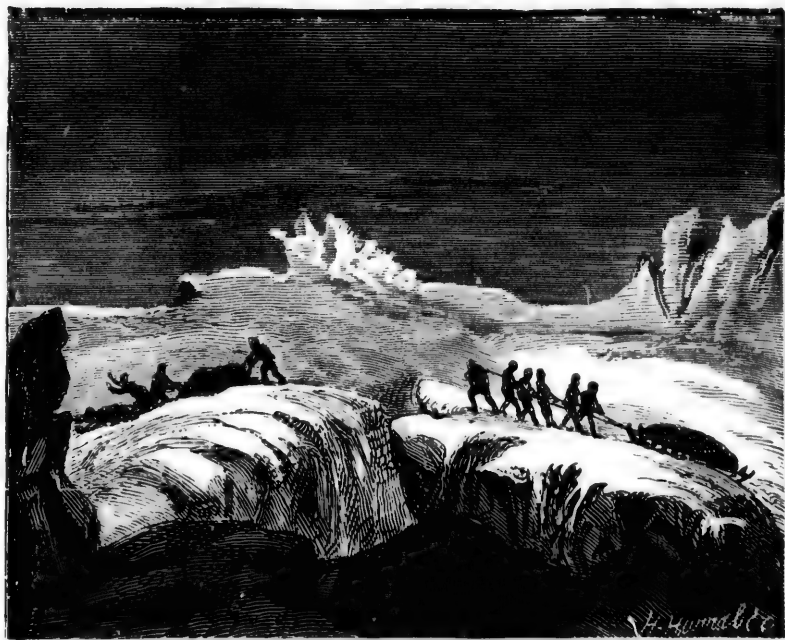
The entrance to Smith's Sound was discovered, so long ago as 1616, by the old English navigator, William Baffin, who named the channel after Sir Thomas Smith, the first chairman of the East India Company, and a great patron of the "North-west Passage to India." A very instructive book, "The Threshold of the Unknown Region," was published in 1873 by Mr. Clements Markham, C.B., Secretary to the Royal Geographical Society, who served in 1851 on board the *Assistance*, in search of Sir John Franklin. In it the following remarks are made as to the Smith's Sound route to the North Pole. We give them here as supplementary to the observations just quoted of the Admiralty Arctic Committee.

"Let us now turn to the Smith's Sound route, by which the vast extent of coast-line on each side of Kennedy Channel and the ocean which bounds it must be examined. Humanly speaking, the 'north water' and the entrance to Smith's Sound can always be reached—twenty-one out of twenty-three expeditions having successfully overcome the ice obstructions in Melville Bay. The same success now annually attends the steam-whalers. Under the most unfavourable circumstances, therefore, by this route, a position can certainly be reached near the entrance to Smith's Sound, whence most important discoveries can be made.

"Two well-equipped vessels could, during the spring, send

out at least two extended sledge-travelling parties, besides dépôt parties, which could explore many hundreds of miles of the unknown region in different directions. The extended parties might each be absent 105 days from the ships, and would travel over 1200 miles of ground. This is what M'Clintock did in 1853, and a new expedition might have two M'Clintocks in the field at least. A single extended sledge party could take sixty days' provisions and travel over 600 miles. This single sledge, by means of dépôts and five auxiliary sledges, can be pushed forward to a distance of about 400 miles from the ship. With an expedition consisting of 120 officers and men, two extended exploring parties could be despatched in each travelling season; and 1600 miles of land would thus be thoroughly explored, much of which would be new.

"The exploration of fifty miles of coast by a sledge party is worth more to science than the discovery of five hundred miles by a ship. In the one case the coast is accurately laid down, and its fauna, flora, geology, ethnology, and physical features, are fully ascertained; in the other, a coast is seen, and inaccurately marked by a dotted line on a chart, and that is all. Take for example the shores of the Parry Islands. Parry sailed along them, from Wellington Channel to Byam Martin Island, in 1819, without landing, and showed them on the chart by dotted lines. For the next thirty-two years that was all that was known about them. In 1851 sledge parties belonging to Captain Austin's expedition travelled along the same shores. The results were not dotted lines. They were a correctly surveyed coast; physical features properly noted and delineated; the collection of a valuable series of silurian fossils; of a flora which, though meagre, was of considerable scientific interest; of a fauna, and of numerous ethnological specimens, throwing light upon the ancient migrations of man. The two methods of exploring will not bear comparison.



UPHILL WORK.



EASY WORK.

"But there is every reason to expect that a well-commanded expedition will be able to proceed a considerable distance up Kennedy Channel and Robeson Strait, and so attain a position whence far more extensive discoveries may be achieved. It is true that, in 1853, a wretchedly equipped little schooner, the *Advance*, of 120 tons, and seventeen men, was stopped by the ice near the entrance of Smith's Sound; but she was wholly unsuited for such navigation, and had not the advantage of steam power. On the other hand, Captain Inglefield, in 1852, found the sea open in Smith's Sound, and was convinced that it was navigable; in 1868 Captain Adams ascended a high cape at the entrance, and also found the sea open far to the north. Dr. Hayes also, in 1860, in another unsuitable little steamer of 133 tons, was not stopped by the ice, but by a gale of wind and a heavy sea. The vessel was unfit for the work. In 1871, Captain Hall, in the *Polaris*, sailed up Kennedy Channel without any check or obstruction, to latitude $82^{\circ} 16'$ min. N., the farthest northern point that has ever been reached by a ship in any direction.

"If we turn to other straits leading from the head of Baffin's Bay, we shall find that analogy confirms and strengthens the personal observation of Inglefield, Hayes, Adams, and Hall. Pond's Bay leads into Eclipse Sound, and thence, by a strait, through Navy Board Inlet, into Barrow's Strait; and these intricate channels were successfully navigated in 1872. Lancaster Sound and Barrow's Strait are almost always open for some distance; and on two occasions vessels have sailed up them for several hundred miles, as far as Melville Island. Jones Sound was also navigated for a considerable distance by Captain Lee, in 1848, without any check." (These inlets are situated west of Baffin's Bay, surrounding North Devon and separating it from North Somerset and Byam Martin Island.)

"There is, therefore," Mr. Clements Markham goes on to observe, "every reason to expect that in an ordinarily

favourable season the waters of Smith's Sound and Kennedy Channel will be as navigable as those of Lancaster Sound and Barrow's Strait. An expedition should consist of two Dundee steam-whalers. One would be stationed near the entrance of Smith's Sound, so as to preclude all possibility of danger to the more advanced party in the improbable event of their vessel being lost. The other would press forward beyond Cape Parry of Hayes" (this is to be distinguished from another Cape Parry, which is situated below the entrance to Smith's Channel) "and possibly winter in latitude 83° or 84° N., or perhaps even still nearer to the Pole. From such a position advanced travelling parties could reach the North Pole, or explore the whole of the northern coasts of Greenland, or of Grinnell Land. The distance from Cape Parry to the North Pole and back is 968 miles—a distance which has frequently been exceeded by arctic sledge parties belonging to the expeditions in search of Franklin. A sledge party led by M'Clintock walked 1210 miles in a hundred and five days; Mechem went over 1157 miles. The work of these travelling parties would be rendered comparatively easy if the land trends far to the north. As regards the land in that direction, the crew of the *Polaris*, in latitude $82^{\circ} 16' N.$, found both the coasts of Greenland and of Grinnell Land stretching away to the north as far as the eye could reach. But there are also other reasons for the conclusion that the land, either on one or the other side of Robeson Strait, or on both, extends far towards the North Pole. The current flowing down the east coast of Greenland has been observed by Dr. Forchhammer to be composed, not of polar water, but of Atlantic water. A strong current flows through the channels between the Parry Islands and down Baffin's Bay. If Greenland or Grinnell Land, it matters not which, extended no farther to the northward than Cape Constitution of Kane, this current would also sweep round Greenland, and flow down its eastern shore. Observation has shown that this is not the case; and hence it may be inferred

that it is prevented from doing so by the land extending far towards the North Pole on those meridians. Numerous geodetical, magnetic, and meteorological observations could be made. The ships could also avail themselves of recent experience obtained in dredging the sea-bottom, of which nothing whatever is known in Baffin's Bay and Smith's Sound."

The above considerations, in the judgment of Mr. Clements Markham, offer convincing proofs that the route by Smith's Sound is the best road across the threshold of the unknown region. Even in an unfavourable season, by this route 1600 miles of previously unknown country would be discovered and thoroughly explored; and valuable observations and collections would be made in every department of science. In a favourable season the North Pole might be reached; the northern coast of Greenland and Grinnell Land might be explored; the geology, flora, fauna, and ethnology might be investigated; and a vast addition might be made to the sum of human knowledge.

"The enterprise," he further remarks, "though feasible and devoid of undue risk, is one of vast proportions. It is one which, while requiring all the highest qualities of our seamen to conduct successfully, and involving dangers and hardships to individuals, such as it is the pride of our naval men to laugh at and overcome, is yet absolutely free from a chance of any such catastrophe as overtook Sir John Franklin and his gallant crews. By stationing a vessel at the entrance to Smith's Sound all such risk for the advanced party will be avoided. There is great abundance of excellent animal food up Smith's Sound. The climate is exceptionally healthy; and though the officers and men who volunteer for this arduous service will be exposed to individual dangers and privations, which will test their high qualities to the utmost, there is no more chance of a disaster to the whole expedition, and far less danger of sickness, than on any other station frequented by the ships of our navy."

CHAPTER XXVI.

THE ENGLISH EXPEDITION OF 1875 (continued).

THE NECESSARY FUNDS—A SPEECH FROM MR. HUNT—THE CHIEF OFFICERS—THE CREWS—THE *ALERT* AND THE *DISCOVERY*—WITHOUT AND WITHIN—LOWERING TACKLE—COLLAPSIBLE BOATS—SLEDGES AND SLEDGING—THE CROW'S NEST—ARCTIC LAMPS—FUEL—PRESERVED COAL—WHOLESOME PROVISIONS—AMUSEMENTS FOR WINTER EVENINGS—THE ARCTIC MUSEUM—MISCELLANEOUS CURIOSITIES—HOW TO MAKE PEMMICAN.

LITTLE can be done without money, so in the House of Commons on the 5th of March we find Mr. Ward Hunt proposing a vote of £98,620 on behalf of the new arctic expedition. His speech is sufficiently interesting for us to give it nearly in full. The house had gone into committee of supply on the supplementary naval estimates, when Mr. W. Hunt said, "It is my duty to ask the sanction of the committee to an estimate for the purposes of equipping and fitting out an arctic expedition, which is to sail in the course of the month of May. The sum asked for is £98,620. The great burden of the expenditure will fall on the current year, but there is appended to the estimate a further sum of £16,000 for the next financial year; and for future years, while the expedition is out, there will be an additional sum of £13,000. In addition to all this, there is a contingent possibility of about £50,000 being required in case of its being thought necessary or desirable to send out a relief ship in consequence of the expedition not returning as soon as expected.

"The inception of the expedition is due entirely to the learned societies of this country. The Geographical Society, the Royal Society, and the British Association, have urged upon the present Government, as they urged

upon the late one, the desirability of fitting out such an expedition for the purposes of science; and in a memorial which they have presented to the Government, they state that results of great scientific importance must arise from the exploration of the polar area. Such results are anticipated by some of the most eminent scientific men in the United Kingdom, and the question is, whether they are worthy the risks that will be incurred.

"No doubt the fate of the last arctic expedition under Sir John Franklin has for many years damped the ardour of the people of this country as regards the sending out of any similar expedition. Sir John Franklin's expedition was the last sent out from this country, I believe, for the purposes of scientific discovery, the others, between 1848 and 1861, having been search expeditions, although, of course, during their journeys valuable scientific discoveries were made. Other countries have not been deterred by the fate of Sir John Franklin from sending out expeditions; and I do not think this country should be, especially after the experience of the American ship *Polaris*, which proceeded by the same route it is now proposed to take.

"When after a review of all the facts relating to the matter, the decision of the Government was come to, in order, as far as possible, to secure a successful result, a committee of experienced arctic officers was formed, consisting of Admiral Richards, Admiral Sir Leopold M'Clintock, and Admiral Sherard Osborn. One of Her Majesty's ships, the *Alert*, has been pronounced by this committee to be in all respects fitted for the service, and she has been thoroughly overhauled at Portsmouth, under the superintendence of Sir Leopold M'Clintock. A whaling vessel, the *Bloodhound*, has been also purchased and renamed the *Discovery*, and she also is being thoroughly refitted at Portsmouth.

"The *Alert* will be the first ship, while the *Discovery* will not go farther north than 82°, and be a dépôt ship.

"I can assure the house that every pains has been taken to equip these ships in the best possible manner, and to provide all that is necessary in every way.

"I cannot help recognising the kindly feeling shown by other governments. The Danish government, which has settlements close to Greenland, has entered most warmly into the enterprise, and has promised to have sledge-drivers and dogs ready at the settlements when the expedition shall arrive. The American government has also placed at our disposal the stores left by the *Polaris* at different points.

"It is quite possible that the main object of the expedition—the discovery of the veritable Pole, whatever that may be—may not be attained, as a great deal will depend upon the season; and there is also an unknown quantity as to what the nature of the country round the Pole may be.

"I do not say there are no risks and no peril, but I do submit that the results to be gained are quite in comparison with the risks likely to be incurred. Nor are the men of the various services the men to shrink from any perils at the call of their queen and country, while those who will be in command are not a whit inferior to those who had gone before them. I beg to move the vote."

The vote was cheerfully agreed to by the committee. Mr. Goschen, as spokesman for the opposition side of the house, applauded the expedition, and wished it every success. Another member remarked that it was high time, when other countries were getting so far ahead of us in arctic exploration, that this country should do something to vindicate its maritime fame. And a third said truly enough that such an expedition, organized openly and publicly in the interest of scientific objects, reflected great honour on the age in which we live.

Of the chief officers selected to serve in the expedition it will be interesting if we give here a few biographical particulars.

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CAPTAIN NARES.



The commander-in-chief of the arctic expedition is Captain George S. Nares. This distinguished officer was a mate on board the *Resolute* in the arctic expedition of 1852-54, when he took an active share in the winter amusements, and did his part manfully as a sledge traveller. He acted in the theatricals, and gave a series of lectures to the men on winds and on the laws of mechanics. In travelling expeditions he was away twenty-five days in the autumn of 1852, and travelled over 187 miles. In the spring of 1853 he was auxiliary to Lieutenant Mechem, and travelled over 665 miles in sixty-nine days. In 1854 he started in the intense cold of March, and went over 586 miles in fifty-six days. He has thus had considerable experience, and will be a connecting link between the former and the present generation of arctic officers.

After his polar service Captain Nares was first lieutenant of the *Britannia* training-ship for naval cadets. He has published a valuable work on "Knot-tying, and other Rudiments of Seamanship."

He commanded the *Salamander* surveying ship on the east coast of Australia, and in Torres Straits in 1866 and 1867, and he afterwards surveyed the Gulf of Suez in the *Shearwater*.

From 1872 to 1874 he commanded the *Challenger* during her important scientific expedition, the operations of which have made such large additions to our knowledge of ocean currents and temperatures. Captain Nares returned to England from Hongkong in January, 1875, to take command of the arctic expedition.

The commander of the *Discovery*, and the second in command of the expedition, is Captain Henry Frederick Stevenson. He entered the navy in 1855, and served on board the *Raleigh* in the Chinese war in 1857, and subsequently on board the *Pearl*. During the Indian Mutiny he acted as aide-de-camp to Captain Sotheby in the actions of the naval brigade with the rebels at Solimpore and Chan-

deepore. He was also gazetted with high praise for his conduct in the action at the fort of Belwar, Fyzabad, Thamowlee, and Puchawas.

Being promoted to a lieutenancy in 1861, he was appointed to the *Emerald*, and subsequently to the *Rattler* and *Euryalus* on the China station.

In 1866 Stephenson commanded the gun-boat *Heron* on the lakes of Canada during the Fenian disturbances, in 1867 became flag lieutenant to Sir Henry Keppel in China, and in the following year was promoted to the rank of commander. In this capacity he served successively with the *Rattler* (lost in the Straits of La Perouse in September, 1868), with the *Vanguard*, the *Iron Duke*, and *Caledonia*. Since 1872 he has commanded the royal yacht *Victoria and Albert*, whence in January, 1875, he was promoted to a captaincy, and to the command of the *Discovery*.

Captain Albert H. Markham is the second in command of the advance ship *Alert*. This officer entered the navy in January, 1856, and served for eight years in China, during which time he was present at several actions in the war, and was promoted in 1862 for his gallant conduct in the capture of a piratical junk. From 1864 to 1867 he was a lieutenant in the Mediterranean flag-ship *Victoria*, and from 1868 to 1871 was first lieutenant of the *Blanche* on the Australian station.

In 1871-72 he commanded the steam-sloop *Rosario* during a cruise among the Santa Cruz and New Hebrides Islands, when he was employed to investigate and report upon the cases of kidnapping, and on the murders committed by the islanders. This difficult duty was performed with tact and judgment, and, after a short service as first lieutenant of the *Ariadne* training ship, he was promoted to the rank of commander on the 30th of November, 1872. In that year he undertook a voyage to Baffin's Bay and Prince Regent's Inlet, in order to acquire experience in ice navi-

gation, and his work on the subject, "A Whaling Cruise in Baffin's Bay," contains the latest account of the operations of the whaling fleet, as well as the memorandum of the scientific results to be secured by arctic exploration. Commander Markham served on board the *Sultan* in the Channel fleet from October, 1873, to December, 1874, and was appointed to the arctic expedition on the 8th of December, 1874.

Commander Markham, we may add, has taken for his chief companion to the arctic regions Nelly, a huge black dog, born on the seas, and a day of whose life has never yet been spent ashore.

The medical duties of the advance ship, the *Alert*, are undertaken by Dr. Edward L. Moss, in company with Dr. Colan. Dr. Moss was born in 1843, and received his chemical and physical education at the Royal College of Science, Dublin, and his medical at the College of Surgeons, Ireland. He became a licentiate of that body, and a medical graduate of St. Andrew's, in 1862. He subsequently visited the United States. He entered the navy in February, 1864, survived an attack of yellow fever at Vera Cruz, and served under Captain Woke in the action in which H.M.S. *Bulldog* was destroyed. Dr. Moss was afterwards attached to H.M.S. *Simoom* for four years and a half.

In 1869 he obtained the Fellowship of the Royal College of Surgeons, Ireland. He was next placed in charge of the Sick Quarters, Portland, and subsequently re-opened the Royal Naval Hospital, Esquimalt, Vancouver's Island, from which post he was recalled by telegram to join the expedition.

He is the author of zoological papers in the transactions of the Linnean and Zoological Societies, of articles in the Naval Blue Book, and in various scientific and medical journals.

We shall now speak of the complements of the two ships. To take first that of the *Alert*, it consists of sixty-two officers and crew all told; viz., the captain (Captain G. S. Nares), the commander (Commander Albert Hastings Markham), four lieutenants, one sub-lieutenant, two surgeons, one chaplain, one assistant paymaster in charge, one naturalist, a chief boatswain's mate, a chief carpenter's mate, a ship's steward, a cook, two captains of fore-castle, three ice-quarter-masters, a captain of the maintop and a captain of the foretop, a sailmaker and a ropemaker, an armourer in charge of gunner's stores, second captains of maintop and foretop, a cooper, captain of hold, a shipwright, carpenter's crew, fourteen able seamen, a captain's steward and a wardroom steward, a wardroom cook, two engineers, a leading stoker, three stokers and coal trimmers, two marines, and Esquimaux or Danes as dog-drivers. The second ship, the *Discovery*, carries fifty-nine hands—that is to say, she has no commander or officer next in rank to Captain Stephenson, and she has two able seamen less than the *Alert*.

It is understood that Commander Markham is on board the *Alert* as second to Captain Nares; Lieutenants Pelham Aldrich, Alfred C. Parr, George A. Giffard, and W. H. May, together with Sub-lieutenant Egerton, also serve on board the *Alert*; while Lieutenants Wyatt, Rawson, Lewis, A. Beaumont, Robert H. Archer, and Reginald B. Fulford, with Sub-lieutenant Conybeare, are on board the *Discovery*, under Captain Stephenson. Dr. E. L. Moss, M.D., is surgeon, as we have already said, to the *Alert*. For chaplains, the Rev. C. E. Hodson, R.N., was appointed to the *Discovery*, and the Rev. W. H. Pullen, formerly a minor canon of Salisbury Cathedral, and the author of "Dame Europa's School," to the *Alert*. Mr. Pullen has not hitherto been connected with the navy. In the early part of the preparations no provision was made for even one chaplain. It was asserted, by way of excuse, that the greatest difficulty had

been experienced in stowing away two scientific gentlemen connected with the Royal Society. Public opinion, however, was clearly in favour of religion being represented on the expedition as well as science, and Government very wisely altered their decision.

Among the crews there are no arctic veterans; in fact, with the exception of Captain Nares, Commander Markham, and the six ice-quartermasters, not a man has ever been in the arctic regions. The ice-quartermasters are experienced whalers; three are from Peterhead, three from Dundee; all six, before joining the expedition, were members of the Royal Naval Reserve.

The crews of the two ships may be called the pick of the British navy. The difficulty was not to find men, but to make selections from the host of eligible volunteers from all ships on the home station. Age, height, character, temperament, and constitution were all taken into consideration. The age standard is from twenty-four to thirty-one; the height standard from five feet six inches to five feet nine inches. The medical examination was extremely rigorous, and soundness of teeth was a *sine quâ non*, since without good teeth no man can eat frozen biscuit. Both crews abound in musicians, vocal and instrumental; and this is well, for men who can sing a good song and play a merry tune will contribute not a little to the cheerfulness of the sequestered little company, isolated in the ice amid the thick perpetual darkness of an arctic winter.

From the crews we may turn to the ships. The *Alert* is a screw-steamer, which was formerly rated as a five-gun sloop.

During their lying at Portsmouth the two ships were visited by the general public at noon every day, and the thousands of people flocked to the dockyard. The vessels lay not a hundred yards apart from one another within a basin of the dockyard, the *Alert* being nearest to the entrance gates, her cream-coloured, almost tiny, chimney claiming

attention the moment one entered. Persons not acquainted with whale ships, or the class of vessels needed in the arctic seas, were astonished at the diminutiveness of the vessels. The *Discovery* was noticed to be smaller than the *Alert*, yet her lines were more graceful. The funnel was black, unlike that of the *Alert*, the light, yachtlike colour of which was not consonant with her build. Indeed, some old whalers pronounced her a heavy sloop, too clumsy to make way rapidly in the ice region, though, perhaps, strong and obstinate enough to maintain a good defence. She is a vessel of 1045 tons, as now registered, but 751 tons by the old measurement, with engines of 430 indicated horse-power. Her dimensions are—length over all, 179 ft.; extreme breadth, 32 ft. 6 in. She made the speed of $8\frac{2}{3}$ knots an hour on her trial-trip.

The *Discovery* is a sharp-bowed vessel of 553 tons; her length is 165 feet. She was built for the seal trade about 1873, and was originally called the *Bloodhound*. She is fitted with engines and screw-propeller, but her speed is rather less than that of the *Alert*.

The hull of the *Alert*, we may mention, is painted with a red streak, and that of the *Discovery* with a green streak.

There are spare fans for the screw of each vessel, and spare rudders likewise, provided in case of accident among the ice. When in winter quarters the screws will be lifted up out of harm's way into screw-wells, the screw-shafts drawn inboard, and the rudders unshipped and hoisted up to davits over the stern.

The propelling-shaft is telescopic at both extremities, so that when a collision with the ice seems imminent it can be easily disconnected from the screw by means of a system of leverage, and the screw hoisted on deck. The steam-crab by which this latter work is performed is so arranged amidships that after the screw has been lifted it can be used to draw the vessel through the floe or along the shore. For this purpose the ice-anchor—a rudimentary mass somewhat

like an "S" in shape, with the lower hook broadened—is made fast ahead by a warp, and then pulled upon by the "crab."

Each vessel is barque-rigged, with Cunningham's patent reefing topsails; and the masts will be interchangeable, having been so constructed that, in case of accident, the spars of the *Alert* can be erected on board the *Discovery*, and *vice versa*. The rigging is of a light but durable character, and all the ironwork above and below is covered with a coating of leather, as a protection for the hands of the sailors in the cold latitudes.

Both ships have been strengthened for their encounter with the ice by a thick "doubling" of timber, covered at the stern and round the bows with a plating of wrought iron an inch thick. Besides this, the vessels are fitted with five water-tight bulkheads each, with engines to pump out any water which may succeed in forcing its way below.

Inside a coat of a species of thick felting called "fearnought" has been fastened on below the interior lining of planking, to produce greater warmth in the 'tween decks space. This in the arctic regions will further be promoted by a coat of snow a foot thick on the upper deck, and over everything there will be a "housing" of fearnought, converting the upper deck into a species of tent.

The captain's cabin is in neither ship a very spacious apartment; but the circumstance that in the *Alert* the engines and boilers are amidships affords Captain Nares better accommodation than that which falls to the lot of Captain Stephenson in the *Discovery*, where the engines and boilers are aft. Both cabins are plentifully supplied with lockers, and it is in these chiefly that there will be stowed the "luxuries" on which the officers will batten. It is true that their rations will be identical with those of the crew on the lower deck, the regulation quota of $1\frac{1}{4}$ lb. meat and 1 lb. of bread on board ship; in the sledge journeys pemmican and biscuit. Their food will be cooked in the same utensils;

the captain will practically partake of the same mess as does the Dirty Dick. But arrangements have been made whereby it will be possible for the officers to tarry over the wine cup. Their stores will be so copious as to allow—the calculation has been carefully worked out—a glass and a half of wine and a half glass of spirits to each officer daily for the space of two years.

Each of the other officers' cabins, which are about 6 ft. long and 7 ft. broad, is furnished with a handsome rack of drawers, which at night is transformed into a snug bed by simply placing a mattress on the top; the inmate is kept from falling out by a longitudinal sideboard. The cabins are lighted by circular skylights cut in the deck; a few of the after cabins are lighted by inverted prisms inserted in the planking of the quarter-deck.

The doors at each side open into a corridor, which is also lighted from above, and forms a commodious mess-room for the officers, who will all dine together. The way below lies through "booby hatches," to each of which is a porch with a door to it. The order will be imperative in the arctic regions that every one passing up or down shall close one door before opening the other, so as to prevent as far as practicable the escape of heat and the intrusion of cold.

Next to the captain's cabin in the *Alert* is one the bed-place of which is of exceptional length. "Valuable space wasted," was the first comment of practical men who visited the ship. Of what use is a bed-place over six feet long in a ship carrying an expedition, the maximum height for the members of which is 5 feet 9 inches? But the doctrine of coincidences vindicated itself. There was the long bed-place, and the man has turned up whose proportions accord therewith, in the person of the Rev. Mr. Pullen, the chaplain. It was understood on board the *Alert* that the reverend author of "Dame Europa's School" is a man who stands considerably over six feet; and it must be

regarded as a satisfactory token of respect to the Church that the cabin with the long bed-place was immediately assigned as the "Bishop's Palace."

In the *Alert* the naturalist has a wardroom cabin; but this functionary in the *Discovery* has been relegated to the gangway, from an apprehension that his avocations are scarcely calculated uniformly to contribute to the sweetness of the atmosphere.

Forward of the wardroom and of the engines is the lower deck, the quarters of the crew. To a landsman it seems that the space is somewhat confined, but the allowance is full regulation allowance and something to spare. The men have locker seats instead of stools; and they sit six at each of the half-dozen tables, three of which are arranged on either side.

Where stoves are used, the neighbouring woodwork is cased with copper, which greatly assists in distributing heat. Pipes of this metal are carried round the wardroom and the fore-castle, between which there is hardly a pin to choose, so snugly comfortable are all the appointments. On the lower deck, against the screening of the engines, stands a concern like a big iron piano. This is the galley. The cooking will be done here, and the galley fire will help to warm the deck. The chimney of the galley-fire has also been made to perform another service. Embedded in the fore-deck is a capacious metal basin, which, when the polar latitudes have been reached, will be filled with snow, and the galley chimney passing through it will condense it. By these means a supply of water will be obtained in the place where it is most required.

We have now described the ships fully enough, we hope, for the present purpose. It remains to say something about their various fittings, and about the boats, sledges, and other apparatus with which this splendidly organized expedition is furnished.

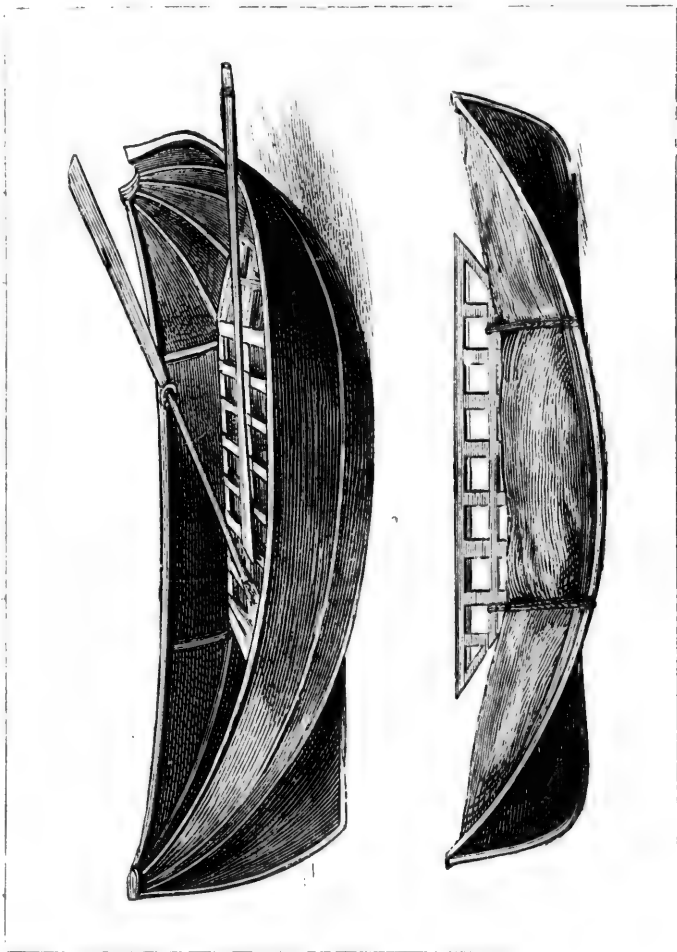
Among the improved fittings is a tackle for lowering

boats, which Captain Nares found of great value in the *Challenger*. The apparatus is of very simple though ingenious construction, consisting of self-detaching slip-hooks and rings, which can be readily attached to the ordinary chain slings and blocks. It secures the descent of a boat, however hastily it may be required, upon an even keel. The rings cannot by any possibility be detached from the hooks so long as there is a strain upon them. But the moment the boat becomes waterborne the fastenings are disengaged and the boat is free. The whole apparatus is almost automatic, and besides securing certain and instantaneous action, it dispenses with the tugging and confusion of the ordinary boat-lowering gear.

Amongst the boats of the expedition are two small folding, or "collapsible" boats, on the principle invented by the Rev. E. L. Berthon, of Romsey. They are taken for use more especially, in crossing the ice-creeks, when travelling at a distance from the ship. We must give some particulars of these handy, portable boats, one of which may easily be carried by a man holding it under his arm, but which will safely bear the weight of four men in the water, being, in fact, a perfect life-boat. It consists of a framework of light timbers, all longitudinal, covered with a double skin, which is made of the strongest woven hemp, perfectly water-proof. The two sides of the boat are contrived to fold against each other, almost flat, upon the line of the keel, as upon a hinge, so that their joint thickness, when closed, is but a few inches, like that of an empty collapsing portmanteau, if it may not even be compared to an empty portfolio. But when the boat is open and expanded, which takes place automatically, in the manner of a parachute, by releasing the sides from their catches or fastenings as it is lowered from the davits over the ship's side, it at once assumes its proper boat-shape, with ample breadth of beam as well as depth of hold. This form is rigidly secured, in another instant, by putting in the floor

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A COLLAPSIBLE CANOE : OPEN AND CLOSED.

Ice-World Adventures.

[Page 416.]



of the boat, an open wooden framework, nearly oblong, which is extremely light, but which supports the weight of as many stout men as can stand and stamp upon it. Two short rods or stays, on each side of the boat, are next inserted, rather aslant than perpendicularly, between this bottom framework and the gunwale. By this simple arrangement, without any transverse benches, which may be used, if desirable, in boats of larger size, the entire hull becomes as stiff, practically, as though its sides were constructed of wood or iron.

As the skin is double, with a space of three or four inches, when the boat is expanded, between the inner and outer skin, there is sufficient air in the hollow sides and bottom, admitted by an orifice from inside the boat, to render it as buoyant as any kind of life-boat yet devised. Indeed, it cannot be sunk; and when purposely capsized will right itself immediately; nor would it sink with a hole in any one part, as the hollow space in the sides and bottom is divided into several watertight compartments. The boat is easy to row or paddle, and easy to sail.

The two boats supplied to the Admiralty for the arctic expedition are but 7 ft. in length, and weigh only 35 lbs., but will carry two or three men. They are to be conveyed on sledges, for the purpose of crossing the ice-creeks frequently met with; but, if a larger number were provided for every ship at sea, they might be the saving of many lives.

Thirty-five sledges are taken for the long journeys to be made across the vast fields of ice and snow. The sledges are of different kinds and sizes. The largest is a twelve-man sledge—that is to say, it will take twelve men to drag it. It is intended to carry provisions for seven weeks. The smallest is a four-man sledge.

Every vehicle is usually fastened together with strips of buffalo hide, steeped in hot water, which becomes like iron in cold climates. When the wind is favourable and sail is

intended to be set, two tent poles are raised on the fore part of the sledge, meeting at the top, where two other tent poles are lashed horizontally, forming a yard, on which a piece of canvas is bent. This materially helps the propelling power when a strong gale is blowing. At the back of the sledge two sloping arms are fixed, with which a man holding one in each hand, guides the course; this is particularly necessary with the dog-sledge.

As a rule the two hindermost dogs are old stagers, who have their work cut out to keep the younger ones in front constantly moving, while another old stager leads the van, and that only on frequent applications of the whip. The dogs have to be watched that they do not take a fancy to the buffalo-hide lashings, for with these animals, as with human beings, appetite is very keen in the cold regions, and hunger is often felt, even after a hearty meal. For this reason the harness for use in the present expedition has been made of stitched canvas bands. These form a collar and a kind of close-fitting martingale, which fastens to a girth. The whip is a very formidable-looking weapon, having a handle about the size of an ordinary hunting crop, but a lash of some twenty feet long, made of seasoned hose-leather.

When laden, the total weight of the ordinary medium-sized sledge will be about 1646 lbs. It will be in charge of an officer and seven men.

Each sledge will carry its cooking apparatus. When the party is numerous the apparatus will be of two kinds—one being formed entirely of metal, and the other (an invention, we believe, of Sir Leopold M'Clintock) being made of wood, with an inner and outer sheathing of tin, and having a receptacle on the top for condensing snow, which thus ensures a constant supply of portable water. The cooking-stoves are circular, the heat being obtained by burning either spirit or stearine; and by an adjustment of saucepans, one upon the top of the other, both pemmican and preserved

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potato or other condiment can be cooked at the same time. The whole is protected from the weather by an envelope of thick "fearnought."

Not the least interesting feature connected with the sledges is the simple, but highly ingenious, way (copied from the whalers) in which the men attach themselves to the drag-ropes. It consists in a single twist in the lanyard, which is kept in its position by means of a copper button. The attachment, however, only remains good as long as the lanyard is kept taut, by which two advantages are gained. Should the sledge happen to fall into a hole in the ice, the men can disconnect themselves in an instant, and thus avoid being precipitated into the chasm. The peculiar fastening will also indicate that the men are doing their duty, as the moment a hauler begins to shirk work the hold upon the drag-rope becomes loosened, and the offender is detached.

Besides the sledges, there are several dog-carriages for the use of the officers, with an upright railing in front, on which, when tired with riding, the driver can support himself while walking by the side. They are all strongly but lightly built of polished elm, with steel runners or slides, in form resembling a double skate, but with a uniform bend upward at each end.

Although previous explorers had necessarily resorted to sledges when their ships got locked in the ice or jammed in the floe, Sir Leopold M'Clintock was the author of great improvements in their weight, shape, and equipment. In his longest journey from his base of operations Parry was only sixty days away, and Sir James Ross forty days. But Sir Leopold believes, as we mentioned on a previous page, that it is now a comparatively easy matter to start with six or eight men, and a sledge laden with six or seven weeks' provisions, and to travel more than 600 miles over frozen seas and areas of hummocky ice.

While travelling with the sledges, each man will be

supplied with a water-bottle, resembling an ordinary spirit flask in shape, but with the mouth and cup covered with a leathern coating for the purpose of protecting the mouth from cold contact with the metal. The bottles will be replenished from the condensers, and the water will be kept in a fluid state by being carried in the bosom. The sledges will also carry a supply of rum of extra quality but this will only be used in cases of emergency, as it has been ascertained that the best antidote against the polar temperature is not spirits, but oleaginous food, of which pemmican is a highly nutritious and concentrated form.

A transporting hand-carriage, of spider form, but remarkable for its strength, forms part of the equipment of the expedition. The weight of this vehicle, which has a dash of the American trotting-buggy about it, but possesses great carrying capacity, is 4 cwt. 0 qrs. 5 lbs.

One addition made to the outfit of the ships was a cylindrical contrivance very like a cask, and large enough for a man to stand upright in, run up to the topgallant masthead. This was the well-known "crow's nest," of which frequent mention is made in the records of arctic voyages and of those in search of whales. It is a barrel-shaped construction, $4\frac{1}{2}$ ft. high and $2\frac{1}{2}$ ft. in diameter, and consists of a framework covered with canvas, open, or rather half-open, at the top, and having a planked bottom, with a trap-hole left in it. Here the nest is entered by means of a suspended ladder connected with the maintop. Attached to the topgallant masthead, this crow's nest will screen the look-out man from the fatal effects of the northern blast.

The crow's nest is usually provided with a seat, a recess to hold telescopes, a speaking trumpet, a rifle and ammunition, signal flags, and a movable screen, which can be shifted round the top to keep the icy wind from the watchman's head. It is of the utmost importance that a careful look-out should be maintained from the moment the icy

latitudes have been entered. When the vessel is passing through cross or floe ice, or when there is any apprehension of danger, the captain seldom or never leaves this elevated and exposed watch-tower.

Captain Penny, while threading the tortuous passages of Baffin's Bay in the *Neptune* in 1838, remained in a crow's nest for thirty-six hours, only descending ten minutes for a cup of coffee, and keeping the telescope to his eye during nearly the whole of the time.

It has often been stated that one of the chief causes of depression to those who have wintered in the arctic seas is the long-continued darkness. During the summer the sun shines continuously for $66\frac{1}{2}$ days north of the arctic circle, but in the winter it disappears altogether below the horizon. From the arctic circle to the Pole the increase in the amount of darkness is very rapid; for whereas at the circle the sun merely touches the horizon on the shortest day, giving three or four hours' twilight, at the Pole itself there is a darkness of 182 days' duration. Hence, the farther northwards the expedition proceeds, the greater will be the dreariness of its winter nights. But to make the little world between decks as cheerful as possible, the Admiralty have supplied the *Alert* and the *Discovery* with twenty-four patent arctic lamps.

This invention is a strong, copper, globeless ship lamp, which will be attached to the bulkheads by bayonet catches, the light being thrown below by powerful metal auxiliary reflectors. The method of raising the wick is by a regulating screw on the top. The reservoir is fitted with a double casing of copper, the intervening space being filled with a thick jacket of felt, which will prevent the oil from coagulating, and will enable the lamp to consume tallow, fat, or grease of any kind should the stock of colza fall short. The wick, which is circular, is fed by suction only. The chimneys have been hardened by a peculiar process to withstand excessive variations of temperature.

The supply of fuel on board for steaming purposes was not very large, when we consider that each vessel will use four tons per day in steaming at a rate of six knots under the favourable conditions of an open sea and a clean bottom. When making their way through the ice the ships must be under steam almost continuously.

There was a quantity of "preserved coal" on board. This handy fuel is warranted to withstand the effects of any climate, hot or cold, and it occupies a remarkably small space in stowage—only about thirty-two cubic feet per ton. It is composed of the best Welsh coal, or rather coal dust, compressed by hydraulic power into hard, compact, square blocks, weighing from 28 lbs. to 56 lbs. each, and these can be so built up in the coal-bunkers as to utilise every square inch of room. Its hardness also reduces dirt and dust to a minimum. It is extensively used by the Indian railways and the *messageries maritimes* of France.

The *Alert* started on her voyage with five tons of spirits of wine, ten tons of bread, eighty-five tons of beef, pork, bacon, coffee, sugar, flour, and preserved meats, and ten tons of purser's stores. The total weight on board was about 540 tons, and the estimated draught of water was 15 ft. 6 in. forward and 17 ft. aft. The *Discovery* carried four tons and a half of spirits of wine, nine tons of bread, seventy-eight tons of beef, flour, sugar, bacon, pork, coffee, and preserved meats. The total weight on board this vessel, including machinery, was 440 tons, which it was estimated would give a draught of 15 ft. 4 in. forward and 16 ft. 3 in. aft.

Each ship is furnished with theatrical properties and wardrobe, so that amateur theatrical performances can be given on board. A piano was presented to the *Alert* and an organ put on board the *Discovery*. The Admiralty made a grant of £25 for each ship, to be expended in the purchase of apparatus for games. In accordance with the Admiralty rule, a library containing about five hundred

volumes was furnished to each ship. Each comprises every work that has been published in connection with arctic exploration.

Much amusement was excited amongst visitors to the ships before they sailed at the sight of articles intended for the theatricals and fancy balls to be held in the arctic regions.

Such entertainments are looked upon by old arctic officers as salient and efficacious means of "keeping the devil off" in the dull days at sea. An arctic traveller with a distinguished name has written these words: "The most noticeable qualifications for active service are aptitude for taking part in those winter amusements which give life to the expedition during the months of forced inaction."

In the Arctic Museum at Portsmouth, on the occasion of the visit of the Prince of Wales and Duke of Edinburgh, some amusement was afforded to the royal party by two framed bills of arctic entertainments printed some two-and-twenty years ago. Of these two programmes, both of which were printed in the polar regions, the first, dated January, 1853, bore the heading, "Soirées Fantastiques, Melville Island, H.M.S. *Intrepid*," and proceeded to set forth the interesting information that an entertainment, "under the patronage of Captain Kellett and Commander M'Clintock," would be given by Lieutenant Bedford Pim "the well-known performer in legerdemain," some of whose astounding tricks of the art had been specially reserved for that occasion.

Another and more "legitimate" play-bill, dated November of the same year, on board the *Resolute*, showed that Mr. Nares, then ranking as mate, played in Maddison Morton's farce of "The Two Bonnycastles," which was the afterpiece following Shakspeare's comedy of "The Taming of the Shrew."

We have just alluded to the Arctic Museum at Ports-

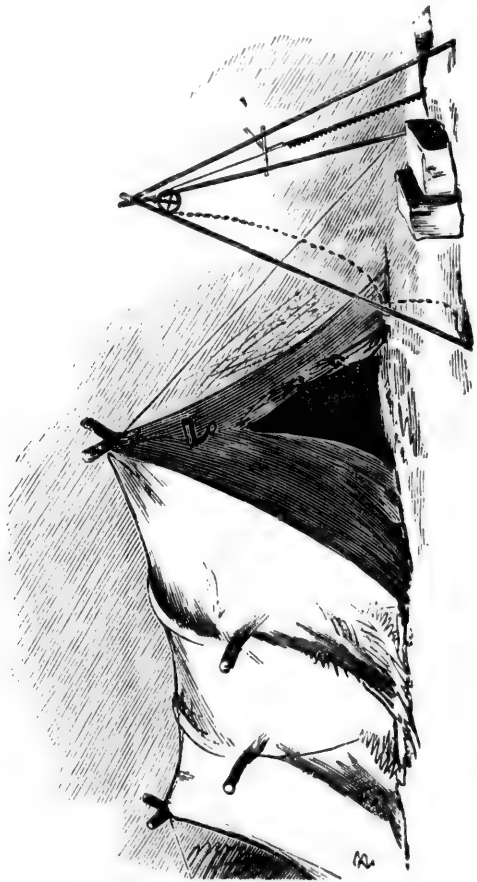
mouth. It was a miscellaneous collection of articles arranged in a red brick building close to the basin in which the *Alert* and *Discovery* lay previous to their departure. A lively writer who visited it, thus describes what he saw :—

“Here are huge ice-saws, with great jagged teeth, ice gouges for scooping holes in the ice, whence to draw water, or in which to insert blasting charges. Here are ice-anchors, and crushers, and grapnels, snow-shoes, and other equipments. There are many sledges of various sizes, and for different purposes, but all constructed on the lines of the model made by Joe Organ, Admiral Sherard Osborn's old coxswain, and now to be seen in the British Museum. One sledge is rigged with the sail devised by that experienced old arctic voyager, and described by him as ‘easing the men's shoulders wonderfully.’

“An ice tent stands pitched ready as for use. It accommodates eight men, the officer lying farthest in, the men heads and heels, with the ‘cook’ for the next day nearest the door, which it is his duty to make fast; and he lies here because it devolves on him to get up in the morning and prepare breakfast in advance of the rising of his comrades. It is the privilege of the man who has come off duty as cook to lie next the officer. The sleeping equipment for use in this tent consists of various strata. Next the ice is an indiarubber sheet, covered with a thick robe of soft felting: on this the men lie in their sleeping-bags of the same material, inside which they get ‘all standing,’ for there is no undressing on sledge journeys; and over all there is another duffle robe.

“The tent coverings consist of unbleached duck, supported by two poles at either end. The tents to be taken on the expedition are to hold twelve, eight, and five men. The canvas and poles can be converted into sails for the sledges.

“A table running down the centre of the museum is covered with objects neatly classified and labelled, the



A SLEEPING TENT FOR EIGHT MEN AND A TRIPOD FOR AN ICE-SAW.

Ice World Adventures.

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weight being in every case recorded. There are ice-saws, gouges, axes, chisels, knives, anchors, and claws. The largest ice-saw is a ponderous implement measuring fifteen feet in length, and about a couple of cwt. in weight. It will be used for cutting a channel through the pack, or for making a convenient berth for the ships during the long and dreary months of the arctic winter. It will be worked by means of a tripod sheers and a gin, and will be guided by an ice-quartermaster. For blasting ice, a tin case with a fuse is the simple agent; and indeed a glass bottle would do almost as well. A hole is first crushed or 'jumped' in the ice, by a heavy iron pole with a claw-shaped club, which is raised two or three feet and allowed to fall perpendicularly. Through the hole, the blasting-case is introduced, and fired by the fuse. Then the claws and other implements are used in dragging away the ice fragments so as to leave the water clear. A harpoon gun for shooting whales and walruses, with a clever breech-loading apparatus is shown. This will be fastened on a swivel at the bow of a whale-boat. The length of the harpoon is four feet. It is made of the finest steel. The gun though single-barrelled has two nipples to the lock to avoid the chance of a cap missing fire. There is also a smaller gun with its screen for killing seals when the dogs are hungry.

"As this condition will occur to men as well as dogs, human food is one of the objects exemplified in the museum. The benefit of a mixed diet, largely inclusive of vegetables, is too well known to be dwelt upon at any length or with much emphasis; and as compactness and portability are desirable in an expedition which may last three if not four years, the compressed cabbage for which a French inventor is celebrated appears in the Arctic Museum as a matter of course. So does that valuable nutriment pemmican. Pemmican biscuit, is likewise in store.

"The cooking utensils, for which stearine fuel as well as

spirits of wine is used, are Sir Leopold M'Clintock's own invention; and on the principle of the snowtanks on the decks of the *Alert* and *Discovery*, there are chambers in these portable stoves into which snow will be rammed. The cooking utensils pack into very small bulk.

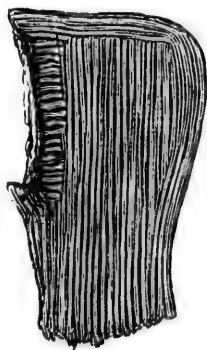
"Close to the cooking implements and the tin cases for blasting ice are the invaluable despatch tins, which played an important part in the discovery of the *Investigator*. They will be deposited, not actually in the cairns—for these erections are often mauled by bears—but twelve feet due north from such land-mark.

"After food comes clothing; and the arctic fashions are here temptingly displayed. Green spectacles with gutta-percha frames and soft flaxen pads are indispensable additions to an attire which is more remarkable for comfort than grace. Thick knitted woollen are the under garments, which are worn two and threefold. Over these the 'duffel' suit, in preference to sealskin; and over the duffel is canvas, not for warmth, but for protection against the snow, which would penetrate the duffel very quickly. The woollen boot-hose have chamois-leather heels; and fisherman's boots, for sloppy ice and snow, are worn over them. We must by no means forget the worsted night-caps, a supply of which had been presented by the empress of the French. The steel rope which is to be taken out instead of a 9-inch hawser is also exhibited. Its advantage is, that with the same breaking strain of fourteen tons, a coil weighs only 5 cwt. as against a ton of the old rope hawser."

The reader may not be displeased to see, by way of conclusion to this chapter, an authentic account of the preparation of that indispensable article for the arctic voyager, pemmican. The following is from Sir John Richardson's "Arctic Searching Expedition," published in 1851:—

"The round or buttock of beef of the best quality, having been cut off into thin steaks, from which the fat and

membranous parts were pared away, was dried in a malt-kiln over an oak fire, until its moisture was entirely dissipated and the fibre of the meat became friable. It was then ground in a malt-mill, when it resembled finely grated nutmeg. Being then mixed with an equal quantity of melted beef-suet or lard, the preparation of plain pemmican was complete; but to render it more agreeable to the unaccustomed palate, a proportion of the best Zante currants was added to part of it, and part was sweetened with sugar. After the ingredients had been well incorporated by stirring, they were transferred to tin canisters capable of containing eighty-five pounds each, and having been firmly rammed down and allowed to contract further by cooling, the air was completely expelled and excluded by filling the canister to the brim with melted lard, through a small hole left at the end, which was then covered with a piece of tin and soldered up. Finally the canister was painted and lettered according to its contents."



AN EMPRESS'S PRESENT.
(See page 426.)



A WELSH WOOLLEN WIG,
FOR ARCTIC WEAR.

CHAPTER XXVII.

THE ENGLISH EXPEDITION OF 1875 (continued).

A FAREWELL BANQUET—VISIT FROM THE PRINCE OF WALES—THE EMPRESS OF THE FRENCH VISITS THE SHIPS—THE DAY OF DEPARTURE—INTERESTING INCIDENTS—TELEGRAM FROM THE QUEEN—THE *VALOROUS*—THE EXPEDITION AT PLYMOUTH—IN BANTRY BAY—A PRIVATE LETTER—ON THE VOYAGE—NEWS RECEIVED BY THE *VALOROUS*—LATEST INTELLIGENCE.

WE have now arrived at the last days of the expedition in England.

The Mayor of Portsmouth, on the evening of the 20th of May gave a banquet to Captains Nares and Stephenson and the officers under their command, with a company of nearly two hundred and fifty guests, in the Portland Hall, Southsea. Among those present were Admiral Sir Leopold M'Clintock, K.C.B., naval superintendent of the dockyard; Major-General Sir Henry Rawlinson, K.C.B., President of the Royal Geographical Society; and the presidents of other learned societies Sir George Airy, Astronomer Royal, and Admiral Sir G. Elliott.

After the customary loyal and patriotic toasts, the Mayor proposed the health of Captain Nares and the other officers of the arctic expedition. In replying to this compliment, Captain Nares observed that it was by the influence of the Royal Geographical Society, and by the efforts of a few men, such as the late Admiral Sherard Osborn and Mr. Clements Markham, that the nation and Government had been aroused to renew this noble enterprise. Captain Nares alluded to the picture by Mr. Millais, in the Royal Academy Exhibition of last year, with its motto, "It must be done, and England must do it!" He bore testimony to

the completeness of the arrangements made under the direction of Sir Leopold M'Clintock for the outfit of the expedition. He declared, in conclusion, that if success could be achieved at all they ought to achieve it. This speech was very well received.

On the following day, the Prince of Wales, accompanied by the Duke of Edinburgh, the Duke of Cambridge, and Prince Edward of Saxe-Weimar, arrived at Portsmouth for the purpose of inspecting the arctic ships. Both vessels were minutely gone over, and then the royal party visited the museum of arctic curiosities, with which they were apparently much entertained.

On Saturday, the 22nd, the ex-empress of the French visited the ships and the museum. When she quitted them she found drawn up outside the crews of the *Alert* and *Discovery*, and she expressed to the men, through Captain Nares, the deep interest she felt and would continue to feel in the expedition. The crews responded to the kindly wishes of the ex-empress by three ringing cheers and by waving their caps.

As soon as her majesty had quitted the vicinity of the museum, the crews of the two vessels formed in marching order and proceeded to Portland Hall, Southsea, where they were to be entertained as the guests of the Portsmouth town council. The dinner passed off most satisfactorily, and the crews returned to their ships highly gratified by the entertainment they had received.

A week of bustle went by, and at last the day dawned on which the ships were to leave Portsmouth. It was the 29th of May.

"Nothing superficially," remarks a graphic newspaper writer, "could have been more prosaic and matter-of-fact than the incidents of the departure, with the sole exception of the final progress seaward, and even that was chiefly impressive, not from set ceremonial, but by reason of the spontaneous enthusiasm of the vast crowds of specta-

tors. But below all that was prosaic, and not a little that in its way was genuinely comic, there lay a serious interest more engrossing, and a pathos that was more moving, than if the final scenes had been of a melodramatic character.

"The dockyard was closed to the public, admission being granted only to the friends and relatives of the crews, and thus the little gatherings on the jetty and on board the ships were almost of a family kind. In the gathering on the deck smiles and tears were strangely blended. The sailors kept a stiff upper lip and strove hard to wear an aspect of jollity. Some succeeded to admiration, and one worthy bravely chanted a comic song; but his efforts to amuse were not universally appreciated. In one corner an old mother sat with an arm around the neck of her stalwart son. A marine artilleryman, with that solemn aspect which seems peculiar to this branch of the service, was gravely performing 'a spell of drynursing' as he himself phrased it, dandling his infant in a curiously clumsy manner, as if he did not like to surrender it, and yet was in mortal terror of letting it drop, while his wife hung on to his arm, clearly with but little between her and a burst of sobbing.

"Every now and then there was a final parting, but this seldom occurred on board. Husband and wife, the former carrying the baby, would pass up the gangway to the jetty, and stroll a little way apart out of sight, and presently the man would come back alone, not inclined to be very free of speech just yet awhile, and with a tell-tale quiver about the mouth. There was no work to be done, and the unattached men, who had probably already said their farewells, and, at all events, had no sweethearts or wives on board, made themselves demonstratively useful among the children, relieving mothers from the cares of watching that they came to no harm by falling down hatchways, or finding a premature grave under coal-sacks.

"There was one seeming misanthrope, a dry, saturnine man, who took no heed of stray children, clasped no friendly hand in a hearty farewell, but sat grimly and companionless, smoking a solitary pipe. Yet who knows? The seeming misanthrope may have had a heart too full for intercommunion with his kind, and as he sat thus isolated and apparently self-centred, may have been mentally recalling with an exceeding wistfulness the last look from out loving eyes, that last caress, the touch of which he seems to feel upon him still.

"It was altogether a strange scene to stand and watch—a scene with its prosaic surface, its undercurrent of deep emotion. A husband and wife sat with clasped hands each on a great tin of colza oil. A little woman suddenly broke down, and sank sobbing, white print skirts and all, on the top of a coal-sack. The children were playing at horses on the still taut chain-cable. There was a policeman on board, but the guardian of the peace has come, not sternly to repress disturbance, not intent on running anybody in, but simply to exchange a warm handshake with the marine, who it appeared, was his old chum. Old ship-mates came abroad, and, in a rollicking, nautical fashion, wished well to fellows who had cruised with them in the *Duncan*, the *Sultan*, or the *Minotaur*.

Down below in the 'tween decks, where, amid confusion worse confounded, a lumber of kits, lumps of meat, sailors in odd corners sleeping off the effects of overmuch rum, the cook was engaged in cooking a dinner for which, to all appearance, there would be but few claimants, a sanguine tar was attempting to coax cheerful strains out of a rather wheezy accordion with a perseverance which merited happier results. Here, too, amid all the confusion, quiet couples were sitting talking earnestly, and were not to be distracted from their conversation either by 'The Men of Harlech,' or by 'Cheer, boys, cheer!'

"On the jetty there stood apart a little group of women

whose talk was in that fine broad northern Doric which is to be heard in so great perfection in Aberdeen, Peterhead, and Dundee. These ladies, who were high of cheekbone and angular of figure, and who were the wives of the ice-quartermasters, were self-contained and calm. Their farewells had not moved them to tears; their chief concern was lest one or two of their husbands were likely to get into trouble by reason of having applied themselves too freely to the parting glass. They were used to the departure of their husbands on arctic voyages, and one would tell you quietly that in his last trip in a whaler, 'my man was ane-an'-twenty month i' the ice an' mair forbye.' When the expedition departed they took train for London with intent to catch the 'Aiberdeen boat.'

"About half-past two the fires were lighted in the engine rooms, and presently a tiny stream of white smoke began to issue from either funnel. This was the first overt signal of the impending departure. Gradually friends and relatives went their ways. The officers one by one came on board, and orders began to be issued. A great hamper full of fresh bread was taken on board either vessel.

"An ice-quartermaster from Aberdeen proclaimed his intention of 'striving' with his obstructive wife if she did not withdraw her opposition to his seeking the nearest public-house for one last drop of whisky. 'I maun hae ae last drappie, an' I will gang ashore. I'm no a navy chappie; I hae ma free will.' But the wife set her face half-sternly, half-coaxingly against that last 'drappie,' and as a deterrent gave her 'gudeman' the baby to hold, although there appeared an imminent risk that he would drop that precious pledge of mutual affection.

"Captain Nares came on board, his own parting over, and now the moment of departure was fast approaching. One final photograph was taken. The ladies who had lingered thus long in the wardroom were escorted on deck, their veils closely drawn over their faces, and the little throng

on the jetty respectfully made way for them as they moved away slowly, yet resolutely refraining from looking back.

"The signal of the flagship went up to the mizen of the *Alert* asking the admiral for 'permission to part company,' and the affirmative reply was speedily visible. The naval postmen came aboard for the last time, bearing packets of letters, the contents of which may well be guessed, but even to glance at which the recipients were too busy. A telegraph boy darted down the gangway with a message to a young lieutenant. 'Goodbye, and God bless you!' the young fellow read aloud in his abstraction, before he hid the message in his bosom—the last fond farewell and aspiration from yearning hearts.

"'All for shore,' was the order, and the last of the visitors passed out; with them too passed out the drowthy ice-quartermaster from Aberdeen, who, still intent on that last drappie, had circumvented his wife by guile, and was now tacking his devious way in the direction in which he presumably conceived the drappie to lie. The matron was equal to the occasion; she intercepted her consort, who was found mandlin in her arms in a corner, and led down to the ship extremely drunk, yet saturnine, and with an assumption of dignity which was not disturbed by the ignominy which marked his reception on board.

"And now strong arms pulled the gangway ashore, and communication with the *Alert* was cut off. Captain Nares, with the pilot, took port on the bridge, the braces were manned and the yards squared. From the jetty the harbour master gave his successive injunctions: 'Let go forward!' and then the screw made its first revolution.

"One moment more, and the order was, 'Let go abaft!' and lo! the *Alert* was free and slowly steaming away from the jetty, closely followed by the *Discovery*.

"'Man the rigging,' was the next order, and the seamen, springing up nimbly, clustered on the shrouds, cheering

loudly in response to the cheering of those left behind on the jetty. Not that all left there were in care to cheer; not a few there were who turned away in mournful silence, or in silence wistfully gazed through tears after the receding ships.

"It was four o'clock to the minute when the *Alert* cast loose.

"Very slowly the ships—the *Alert* leading by about a hundred yards—steamed down the harbour, their rigging remaining manned. Slowly they passed the war-ships, the glorious old *Victory*, the flag-ship *par excellence* of the British navy, and the lofty-sided *Duke of Wellington*, and the *St. Vincent*, bearer of a memorable name. These, as the arctic vessels passed, manned their rigging, and their crews sped their comrades on their way with ringing cheers. The flag-ship ran up the signal, 'Good bye; best wishes!' and the *Alert* responded with, 'Thanks; farewell!'

"It was a sight not to be forgotten as the ships emerged from the harbour into the anchorage of Spithead, and headed eastward, standing close inshore. Their path lay through a vast flotilla of steamers, yachts, and row-boats, crowded with spectators cheering enthusiastically. From the grass-grown, half-dismantled ramparts of Portsmouth on the west, as far as Southsea Castle on the east, the shore from the top of the sea wall down to the water's edge was lined by one unbroken mass of onlookers. Amid the throng of dark-clad spectators ran the narrow red strip of the soldiery which had been drawn out and set in array on the beach to do honour to the departing representatives of the sister service. As the *Alert* and *Discovery* slowly passed along this coast-line of humanity, the waving of handkerchiefs was as if the wind were fluttering the leaves of a forest whose leaves were white, and peal on peal of cheering was wafted by the light breeze over the calm water. And thus enthusiastically and heartily sped on its way, the

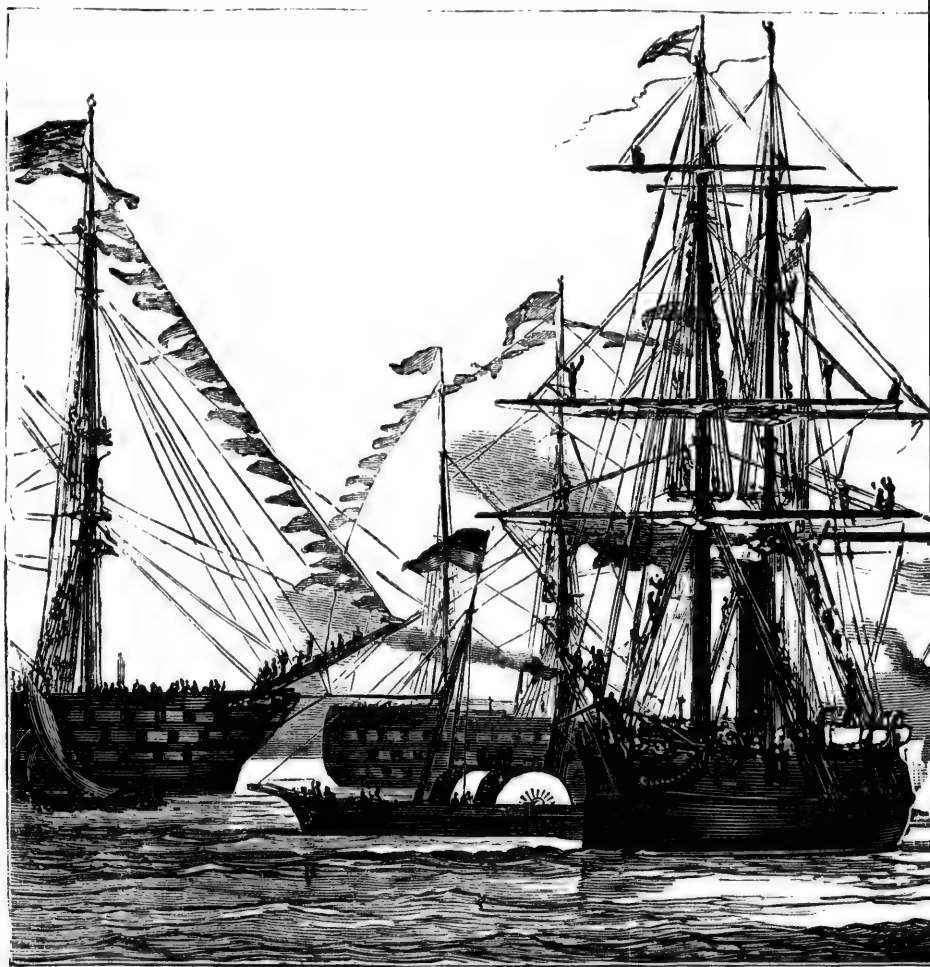
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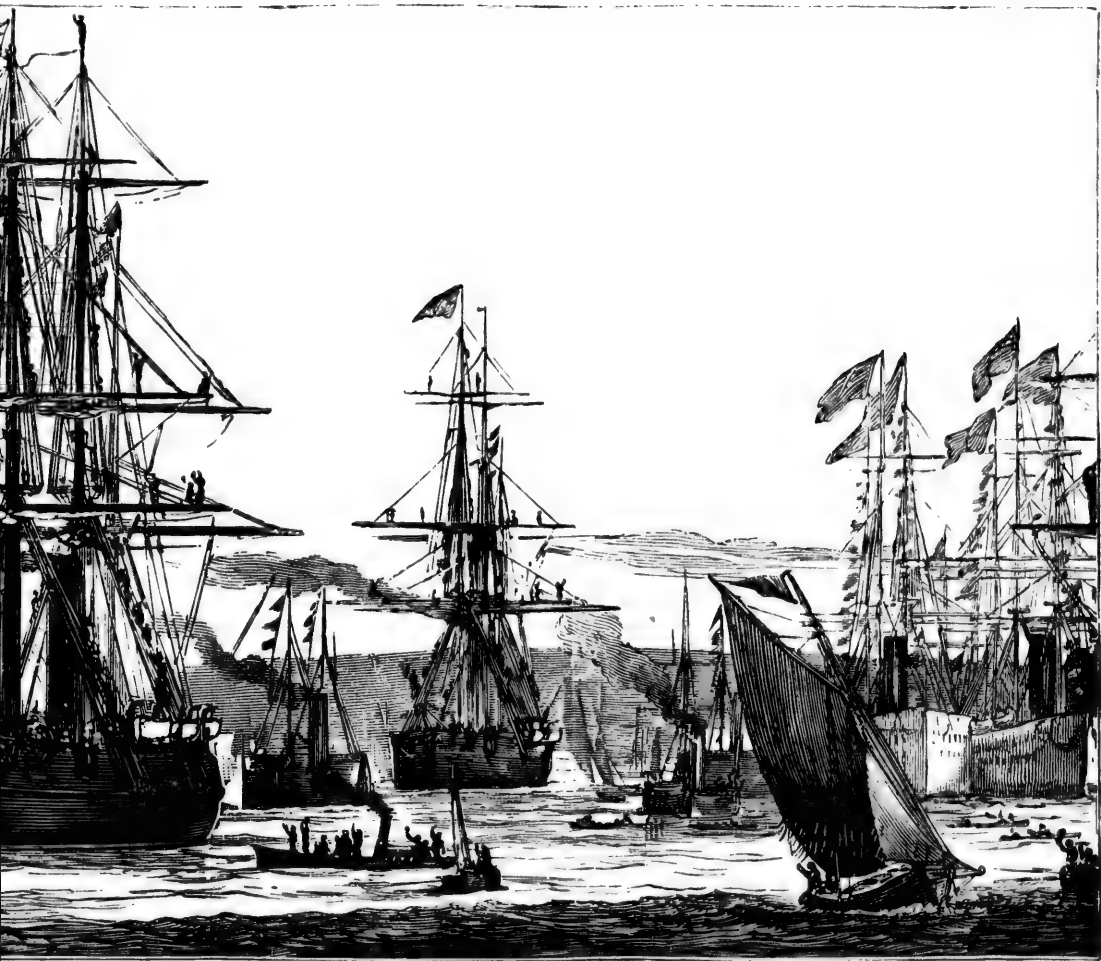
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Ice World Adventures.]

THE DEPARTURE OF THE "ALER"



ARTURE OF THE "ALERT" AND THE "DISCOVERY."

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arctic squadron stood slowly away out to sea, and as the assembled crowds stood gazing on it till the last, when with sails set the ships gradually faded out of vision round Sea View Point, the glass told that the signal 'Farewell' was still flying from the mizens."

In the course of the day Captain Nares received the following telegram from the queen:—"I earnestly wish you and your gallant companions every success, and I trust that you may safely accomplish the important duty you have so bravely undertaken."

Captain Nares telegraphed in reply, "I feel deeply the great honour her majesty has done myself and the other members of the expedition in wishing us success. Her majesty may depend on all doing their duty."

The two ships were accompanied by the *Valorous*, a wooden frigate under the command of Captain Loftus F. Jones. Its business was to convey stores for the expedition to the dépôt at Disco.

On Sunday morning the squadron passed Plymouth, and was visited by Admiral Sir Henry Keppel, G.C.B., the commander-in-chief of that naval station. He came out in his tender, the *Princess Alice*, to bid the explorers farewell. Sir Henry remained on board the *Discovery* to luncheon with Captain Stephenson, who is his nephew, while the ships were running to the westward past the Eddystone.

The *Valorous* parted company for a short time with the two arctic vessels, and went on to Queenstown, to call for despatches and letters, and to take in an additional supply of coal.

On Tuesday afternoon the *Alert* and the *Discovery* arrived at Bearhaven, in Bantry Bay. Here they anchored for the night. The *Valorous* rejoined them, and the three ships left next day bound for Disco.

Many private letters were written by members of the expedition as they lay at anchor in Bantry Bay. In one of them we are told that "both the ships sail very well, the

Alert the better of the two, both on a wind and going free."

"As far as we have had any opportunity of judging," says the writer, "our ships are very good sea-boats, and if we only have a fair wind, except that we shall be detained by the *Valorous*, we shan't be long crossing the Atlantic. We have had wonderfully fine weather up till now, a breeze strong enough to send us six knots through the water, and the sea quite smooth. Nothing could have been more acceptable than this fine weather has been, as it has enabled us to shake down quietly into our cabins, and mess-places, and to properly secure anything that had not been quite properly stowed, etc., just at the last before leaving. . . . Most promising has our start been. May the same good fortune remain to us throughout our voyage. Our ships are good, our men are healthy, strong, and determined, and the officers will do their duty. So with God's help, we ought to succeed."

On the afternoon of Sunday, the 29th of August, the *Valorous* returned to Portsmouth, and by her means news was obtained of the gallant men despatched to carry the flag of Britain to the Pole.

It seems that the gloomy regions of the north had given our vessels an early taste of the rough work awaiting them. They had hardly quitted Bantry Bay for the open Atlantic before violent gales drove the three consorts apart, and for more than a fortnight they were scattered in all directions thither by cyclonic blasts, which did not only scatter the boats and carried away much gear on board the *Alert*.

Green seas rolled over the last-named ship forward and aft, and the crews passed a trying time, battered down and half stifled for air; but so little did the bad weather spoil their tempers, that one correspondent tells that he saw the naturalist of the *Alert* complacently fishing in the seawater for what he took to be new organisms, though they turned out merely to be the grains of maize washed out of the

poultry coops, wherein all the unfortunate fowls had been drowned.

On the 27th of June, the weather having somewhat mended, ice was seen drifting round from the east coast of Greenland, by Cape Farewell, and the sight "gladdened everybody's heart." Here was the enemy in sight at last.

The *Alert* sighted Cape Desolation on the 28th of June, and on the 6th of July made Godhavn, where she rejoined her consorts. In the landlocked bay of Disco all was peace again. The sojourn here was characterized by festive proceedings alternated with the hard work of filling up stores, and the pleasant occupation of surveying the wonderful scenery of the shores and waters thereabouts. The *Valorous* transhipped her fuel to the two exploring vessels, raising their stores to about two hundred tons apiece, and loading them up to the decks with surplus provisions. They also took in dogs for the sledging, with native drivers, a whale net, some extra coal from the Disco shale beds, and, moreover, shot enough "loomies" for two days' fresh meat all round the fleet.

On the 17th of July the *Valorous* bade good-bye to the *Alert* and *Discovery*, quitting them in the Waigatz, a strait which runs behind Disco Island. The two ships were then bound for Upernavik. The *Valorous* was to return home.

The voyage of the *Valorous* back to England was tinged with disaster. Off Holsteinberg, south of Disco, she ran upon a submerged rock, and was in great danger for a while; but her crew behaved excellently well, and the good luck which gave her a rising tide saved the vessel. On her voyage home the *Valorous* did a good deal of deep-sea dredging and sounding.

We were to hear still further news of the progress of the two exploring ships. The *Pandora*, as our readers are aware,* returned to England on the 16th of October. On her way home she had called at the "Arctic Post Office," a cairn

* See page 300.

of stones on the Carey Islands, north of Melville Bay, about latitude 77° , longitude 73° . The date of her visit was the 11th of September. She had already called there when passing the island on her outward voyage, but had found no letters left by Captains Nares and Stephenson; this time, however, she was more fortunate. A deposit was found.

A few of the letters which came home in this way we shall quote. There was one from Captain Nares, dated from H.M.S. *Alert*, Carey Islands, July 27th:—"I am leaving," he says, "a notice in a cairn here in order to send home, if possible, my latest news. . . . We have had the most extraordinary success. The season has proved to be the best that ever was, and, by a happy calm for two days, I have turned it to such account that we have made the quickest passage, thus far, that ever was made so early in the season as this. The Americans did it in August, but here we are in July, with a clear month before us, and no ice whatever in sight; and I am sure there is very little ahead of us. Of course all is wild delight at our prospects. The old whaling men thought I was mad to choose a new route, but it was (as I reasoned it would be) successful. . . . We are sure to get as near to the Pole as the land goes, and then it will be our own fault if we do not complete the work. I shall leave another letter to-morrow at our next dépôt."

There was also a letter from Commander A. H. Markham, of the *Alert*, addressed to his cousin Mr. Clements R. Markham, the secretary of the Royal Geographical Society.

"Off Cape Dudley Digges, July 25, 1875.

"I think our passage from Upernavik to Cape York is quite without precedent. We left Upernavik at eight o'clock last Thursday evening, and the following morning, on account of a dense fog, attempted to anchor in a small bay near the Island of Kingitok, and within a mile or two of the settlement, a man in a kayak from that place actually

piloting us in; but he was evidently ignorant of the pilotage, for we ran on to a rock, and remained immovable for five hours, getting off, however, without any difficulty at high water. The fog having cleared up, we shaped a course due west (true), and at one o'clock yesterday morning made the edge of the pack, into which we went. I never saw such light ice, no thicker than about twelve inches, and very soft and brashy; we could easily have steamed through it. That, however, was quite unnecessary, as the pack was loose, with innumerable leads through it. Having beautiful calm weather, we progressed rapidly, both ships steaming full speed; and at eleven o'clock this morning emerged into the North Water, with Capes York and Dudley Digges in sight ahead, having been in the pack only thirty hours.

"It is certainly a wonderful passage. Of course the weather favoured us a good deal, and I have no doubt we should have been able to get through Melville Bay with as much ease. What astonished me was the ice. I do not believe we encountered any of last year's ice, all that we came through having, in my mind, been formed *this* spring. Then what has become of the heavy ice? It must all have been blown far south by the late prevailing northerly winds. That this indicates an open season for us to the northward I have little doubt.

"We are all naturally elated at our success so far, and quite count upon reaching 85° without any serious check. In a week's time we ought to be on 'the threshold of the unknown region,' when our real work will commence; hitherto it has all been child's play.

"I wish you could be with us now. We are steaming on towards Carey Islands, which we shall reach to-morrow forenoon, and where we shall land *dépôt* A and the whale-boat obtained from the *Valorous*. We shall then go on to Littleton Island, where the *Discovery* is ordered to rejoin us.

"I hope we are not going to have an early winter, but all

last night and this forenoon 'bay ice' was making, and the temperature of the water was as low as 29°. We have, I hope, six good weeks of the navigable season before us, and in that time we may do much."

A private letter from a member of the expedition also on board the *Alert* was dated Off Petowak Glacier, north of the Crimson Cliffs, July 26th. "At present," says the writer, "our prospects are most cheering. Sea free of ice except opposite discharging glaciers; magnificent calm summer weather; every one in perfect health and uproarious spirits, and in better time than any expedition before us. Provisions in plenty, our sheep untouched, the first that ever came up here: lots of ducks hanging up in the rigging; barrels of looms' eggs (we had some for lunch to-day, cold boiled, and no plover's eggs could equal their flavour). We are now going into the Carey Islands, and will hand over our letters to the *Discovery*, which is six miles astern, to be 'cached.' We shall at once make our dépôt of provisions, and go on to Lyttelton Island."

The following is a letter from Dr. Coghlan, the fleet surgeon, and senior medical officer of the arctic expedition:—

"Approaching Carey Island, Arctic Regions.

H.M.S. *Alert*, July 26th, 1875.

"This letter will be left at Carey Island, under a cairn of stones, in a cask, or buried with others, where it may be found by Mr. Allen Young, who may call there, in the *Pandora*, on his way home, or by some captain of a whaler. It will convey to all loving friends in England, who we know most anxiously are on the look-out for any particle of news from these solitudes, the welcome intelligence that we are all, thank God, well and happy, and the weather beautiful, and still perpetual day.

"We had a little slight now to-day, but, generally, the temperature of the air is above freezing point. We are all

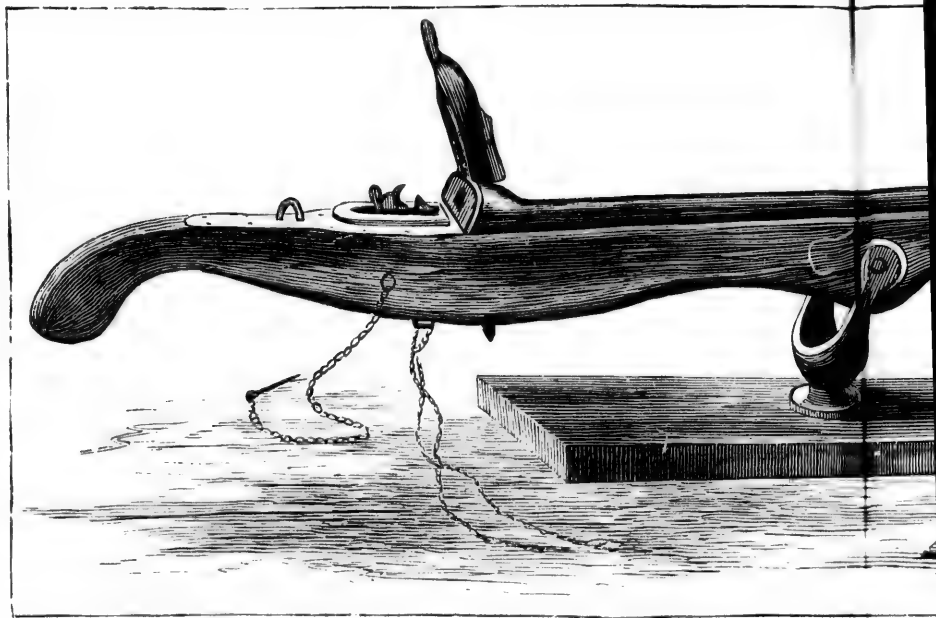
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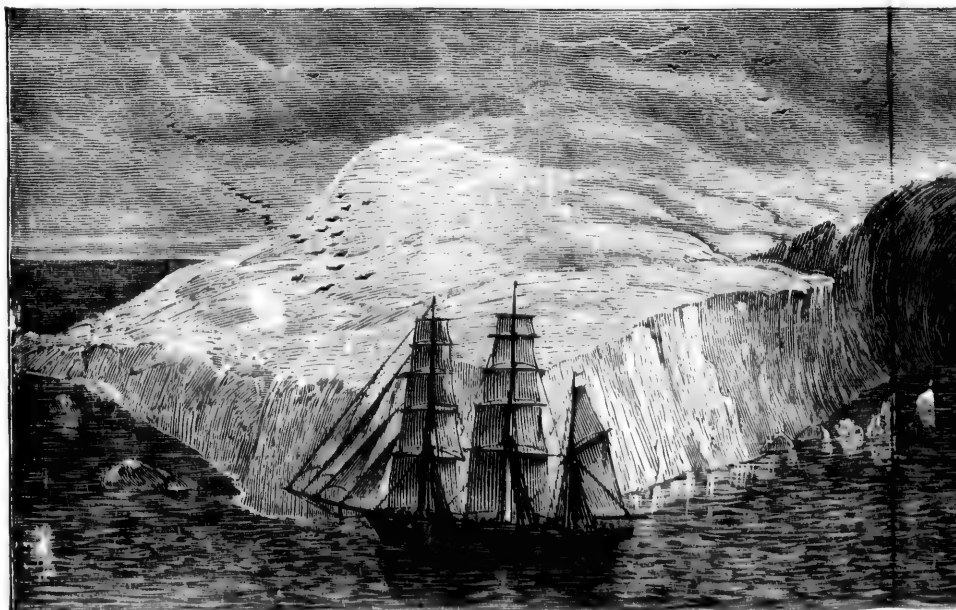
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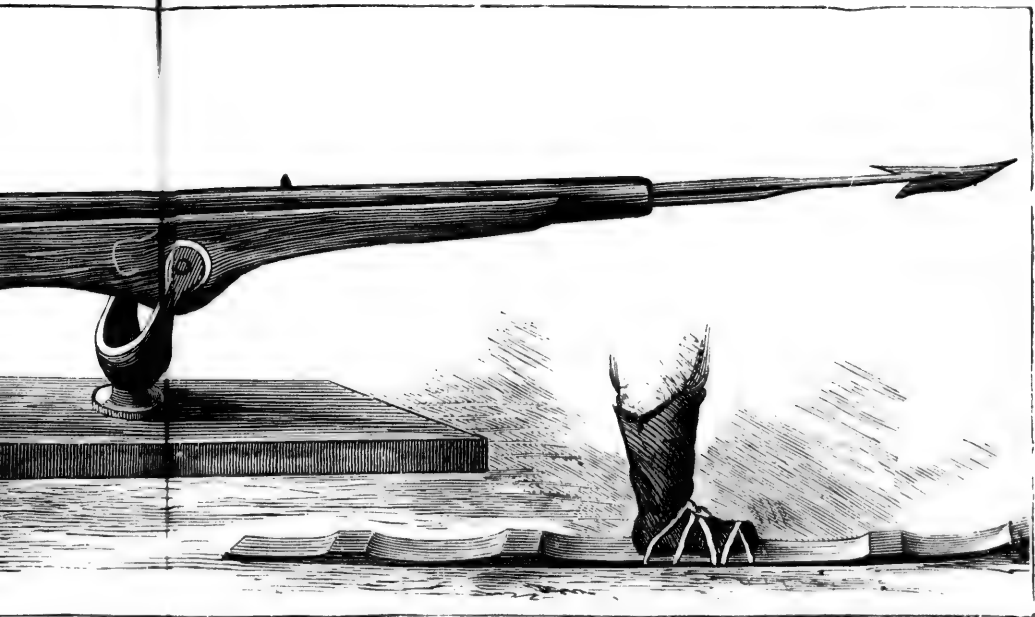
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A HARPOON GUN AND A SN



AN ARCTIC SCENE



HARPOON GUN AND A SNOW SHOE.



AN ARCTIC SCENE.

comfortable, and so far have got on very well indeed, even beyond our expectations. We have got through the 'Middle Pack' of ice—the great dread of navigators—and are now in the North Water.

"If you will look in a map to the westward of Melville Bay and Cape York and Dudley Digges, and a little north, you will see Carey Island. That is the place where we hope soon to place our first *dépôt* of provisions. Farther on we shall place another, on the left-hand side, as we go north, and so on about every sixty miles.

"Should we lose our ship we can fall back on our *dépôts*, and so get to Carey Island, where the Government has arranged to send a rescue ship in 1877. So loving friends at home need not be over anxious about us—indeed, if we go on as we have been doing, 'tis quite possible we may find the Pole, or, finding it impossible, after getting a certain distance northward, to reach it, may give up the attempt and return about October next year.

"The great middle pack of ice we found quite practicable to wend our way through. We always found lanes of water, small channels amidst the floes through which we steamed, and in about thirty-four hours did what otherwise we might have been a week in accomplishing; our great object was to get through that, and we did so splendidly. It was a dead calm all through, and therefore the ice did not close in on us; indeed, if it had done so it could not have hurt us, as it was seldom over a foot thick, and our ships are not shells. The captain, with great courage and judgment, took the outside passage; and we did far better, I think, than if we had taken the inner or general one. We may have a sharp struggle with the ice in Smith's Sound, but we fear it much less than that through which we have passed.

We probably shall be in our winter quarters in about six weeks or so, where we hope to make ourselves jolly and comfortable. We shall endeavour to secure some snug berth, and

not drift, and on the approach of spring try to reach the Pole by sledges. By the time this reaches you (should it reach you at all) 'tis probable the Middle Pack will be utterly impassable, and we shall be shut in by the ice; but there is One who will protect us while far away from all we love and the abode of civilized men.

"We steamed along the coast yesterday evening, and I never saw, amid all my wanderings in every quarter of the globe, such a grand sight—high hills with intervening ravines, filled with huge glaciers, which generally break at the extremity of these valleys, casting off immense icebergs. Numbers of these enormous masses of ice towered above and about us, assuming all shapes and sizes, some most grotesque and fantastic, the eye picturing all sorts of figures, from a man's face to a stately palace or temple, with its minarets and spires. Hundreds of thousands of tons in weight must these icebergs have been, when we reflect that nearly two-thirds of them must be hidden from view below the water, and the glorious sun shining on them made them look beautiful and full of grandeur; and often have I felt ready to exclaim, 'O Lord, how manifold are Thy works; in wisdom hast Thou made them all.' 'O ye frosts and snow, bless ye the Lord; praise Him and magnify Him for ever.' We sang at church yesterday, 'From Greenland's icy mountains,' with, I trust, much thankfulness and gladness of heart.

"This, I fear, will be the last letter that can reach you for twelve months; and though hitherto everything has favoured us, and we trust sincerely may still favour us, and while it is even possible for us to get much farther north than any previous navigators, even to the Pole itself, now distant from us 900 miles, we do not conceal from ourselves the fact how much of peril and difficulty lies in that distance; for our troubles and dangers are yet all before us; but, relying on Almighty guidance and

strength, we hope to overcome all and accomplish the task which we have undertaken, and return in strength and joy to dear old England and all we love there. Should we not return, we shall die 'doing our duty,' and meet in 'the better land.' But we are all full of hope and in the enjoyment of excellent health."



THE END OF THE DAY'S JOURNEY.

CHAPTER XXVIII.

A CHRONOLOGICAL ACCOUNT OF ARCTIC EXPEDITIONS.

861. Iceland is discovered.

970. Greenland is discovered.

1496. John Cabot sails and makes a successful voyage in the Arctic seas.

1498. Sebastian Cabot goes to the west of Greenland, and reaches the latitude of 56° .

1500-1502. Gaspar and Michael Cortereal make two voyages to Greenland.

1508-1535. Jacques and Aubert Cartier make several voyages for the purpose of discovering a new passage to the countries whence Spain derives her wealth. They discover the Gulf of St. Lawrence.

1524. Estevan Gomez is sent out by Spain on a voyage of discovery, but only reaches Labrador.

1524. Mendoza Coronada tries to find the supposed Strait of Anian, but is unsuccessful.

1527. Robert Thorne of Bristol is said in Hakluyt's Collection to have sailed to discover the North Pole. There is no account of his voyage.

1536. The voyage of the *Trinitie* and *Minion* in search of a North-west Passage.

1553. Sir Hugh Willoughby sails from England, and is supposed to have discovered Nova Zembla. He is frozen to death in Lapland, with all his crew.

1555-1557. Stephen Borough and Richard Chancellor make two voyages. They reach the islands of Waigatz and Nova Zembla, but without effecting a North-east Passage, which they had in view.

1576. Martin Frobisher makes his first voyage, and discovers the strait which bears his name.

1577. Martin Frobisher makes a second voyage, and names Mount Warwick, to the southward of what has since been called Frobisher's Strait: he makes no advance, however, to the discovery of a passage.

1578. Martin Frobisher makes a third voyage, which is unsuccessful. After this, two brothers of the same name sail to discover a North-west Passage, but they never return, nor is there any conjecture respecting their fate.

1579. Edward Fenton sails to discover a North-west Passage, but returns, being afraid of the Spaniards.

1580. Mercator, Pet, and Jackman try, but without success, to penetrate through Waigatz Strait. They return with much difficulty.

1583. Sir Humphrey Gilbert, intending to discover the North-west Passage, sails to Newfoundland.

1585. John Davis makes his first voyage, and discovers the strait which bears his name. "On the eastern side of this wide sea he discovers and names what retains his appellation of Cape Desolation, and on the western shore, Mount Raleigh, Cape Walsingham, Exeter Sound, and some other places."

1586. In his second voyage John Davis examines the coast on the western side of the strait between Cumberland Island and the latitude of $66\frac{1}{2}^{\circ}$ N.

1587. John Davis makes a third voyage, and reaches latitude 73° . In this he examines the coast which he had seen before, giving names to some other places, but makes no advance towards the solution of the problem of the passage. "The discoveries," says Sir John Ross, "which Davis made in the course of his three voyages proved of great commercial importance, since to him more than any preceding or subsequent navigator, has the whale fishery been indebted. Let not his name be lightly passed over. In talent he has not many rivals, and it is ignorance

probably rather than ingratitude which fails to thank him for the debts owed him by British commerce."

1588. This is the year of the fabulous voyage of Maldonado.

1592. Juan de Fuca is sent to discover the supposed Strait of Anian.

1594-1596. William Barentz, in company with three others, makes three voyages. In the last of these he and half his crew perish. These voyages are all directed to the North-east Passage, and he advances no farther than to Waigatz Strait, and the north-west end of Nova Zembla.

1602. George Weymouth sails from England, but reaches no latitude higher than 64° , and so makes no discoveries.

1603-1606. The expeditions of Stephen Bennet.

1605. James Hall sails with two ships to Greenland, and coasts the land up to 63° , but makes no discoveries.

1606-1607. James Hall makes two more voyages to the same coast, but returns without success.

1606. John Knight sails to discover the North-west Passage. He reaches the coast of Labrador, and abandons the enterprise.

1607. Henry Hudson makes his first voyage to the east coast of Greenland. He returns by Spitzbergen and Cherry Island.

1608-1610. Henry Hudson makes two additional voyages. He discovers the bay which bears his name.

1611. Henry Hudson makes his fourth voyage. His men mutiny, and he loses his life, after penetrating to 73° N.

1610-1611. Jonas Poole makes two voyages. He reaches latitude 73° in Davis's Straits, which was the nearest approach which had been made to the Pole down to that period.

1612. Sir Thomas Button sails to discover the North-west Passage, but is unsuccessful.

1612. James Hall sails on a fourth voyage for the discovery of the North-west Passage. He reaches Ramelsford, in Greenland, in 67° , and is there killed by a savage. The new master decides on returning without farther exploration.

1614. Captain Gibbons sails to discover a passage. He is entangled in the ice, and after remaining five months in a creek about latitude 57° , returns to England, his vessel being considerably damaged.

1615. In this year an expedition starts with Robert Bylot as master, and William Baffin as mate and pilot. They only reach 65° north, examine the coast of Davis's Strait, and trace the coast thence to Resolution Island.

1616. Bylot and Baffin again sail, and circumnavigate the bay which now bears the name of the latter, till they come to a sound, which is named Sir James Lancaster's Sound, in latitude $74^{\circ} 20'$.

1614-1616. Fotherby makes a voyage for the discovery of a North-west Passage, but without success.

1619. Jens Munk enters Hudson's Bay and visits Thorfield Inlet, returning without success.

1630-1631. Luke Fox (commonly called "North-west Fox") makes an attempt to penetrate to the westward by Hudson's Bay, but he adds nothing to former discoveries, and returns unsuccessful.

1631. James sails from Bristol, meets with much misfortune, and fails to discover the passage.

1633. Seven Russian sailors, who appear to have been shipwrecked at Spitzbergen, remain there one year.

1636. The Russians discover the Lena, and other rivers in the north of Europe and Asia.

1640. Bernarda, a Spaniard, affirms, that by a coasting voyage he sailed from the Pacific through a strait, and reached an isthmus which divides the west from the east sea at Baffin's Bay, where he could see the sea on each side from the high land which he ascended.

1646. Forty-two persons are wrecked at Spitzbergen, and remain a year there.

1652. A Danish expedition sails to rediscover East Greenland.

1665. Captain Gillam makes a voyage into arctic seas.

1676. Wood and Flawes endeavour unsuccessfully to discover a North-east Passage.

1719-1722. There are voyages recorded to have been performed between these years by Knight, Barlow, and Scroggs; but little is known of these navigators except that they sailed to discover a North-west Passage. As no accounts of them were ever received, it must be presumed that they were lost.

1719. John Munk sailed on a voyage of discovery to the north, but all his men died except two.

1722. Behring discovers the strait which bears his name. He is afterwards wrecked on Behring Island, and dies there.

1741. Christopher Middleton sails to Hudson's Bay in the *Furnace* for the discovery of a North-west Passage.

1743. Six Russian sailors are left at Spitzbergen, and remain six years there.

1740-1746. The Russian government employ several officers, and trace, by land, nearly the whole coast of Europe and Asia, between Nova Zembla and Behring's Strait.

1746. William Moor and Francis Smith make an unsuccessful attempt to discover the passage by the way of Repulse Bay.

1769-1770. Hearne discovers Hearne River, by means of a land journey.

1773. Phipps (afterwards Lord Mulgrave) makes an unsuccessful attempt to reach the Pole.

1776. Lieutenant Pickersgill is sent out in the *Lion* brig to meet Captain Cook (*see* 1779) by Baffin's Bay. He

reaches the latitude of $68^{\circ} 9'$, and bears up for Labrador, returning unsuccessful.

1777. Lieutenant Young, in the same ship, is sent out for the same purpose. He reaches $72^{\circ} 45'$, and returns without making any farther progress.

1779. Captain Cook, accompanied by Captain James Clerke, attempts to discover the North-west Passage, by Behring's Strait. He finds the ice impracticable, and returns to the Sandwich Islands, where he loses his life.

1780. Captains Clerke and King make another unsuccessful attempt in the same quarter.

1786-1787. The Danish admiral Lowenorn sails to re-discover East Greenland, but his vessel being damaged in the ice, he returns unsuccessful.

1789. Alexander Mackenzie, afterwards knighted, discovers the Mackenzie River by a land journey, and traces it to the frozen sea.

1790. Mr. Duncan examines Chesterfield Inlet. His men mutiny, and he returns in consequence.

1815-1818. Lieutenant Kotzebue, in a vessel named the *Rurick*, attempts the discovery of the North-west Passage by way of Behring's Strait.

1818. Sir John Ross circumnavigates Baffin's Bay.

1818. Buchan makes a fruitless attempt to reach the Pole.

1819-1820. Parry in his first voyage, between latitude 74° N., and longitude 113° W., discovers Melville Island, North Georgia, now called Parry Islands, and Prince Regent's Inlet, and was the first to winter in these regions.

1819-1821. Franklin makes his first land journey. He traces the coast of America between Hearne Bay and Point Turnagain.

1821-1823. Parry, in his second voyage, discovers Melville Peninsula, together with the strait which he named after his ships, the *Fury* and *Hecla*.

1824-1826. Franklin, in his second journey, traces the

coast of America between Mackenzie River and Cape Back; while Richardson, separating from him for the purpose, surveys the coast between Hearne and Mackenzie Rivers.

1824-1825. Parry, in his third voyage, penetrates down Prince Regent's Inlet as far as latitude $72^{\circ}30'$, in longitude 91° W. In this voyage the *Fury* is lost.

1824-1826. Beechey passes through Beechey Strait, and endeavours to penetrate to the westward. He reaches latitude $71^{\circ}23\frac{1}{2}'$ and longitude $156^{\circ}21\frac{1}{2}'$ W., leaving about 150 miles unexplored between his own and Franklin's discoveries.

1827. Parry makes an unsuccessful attempt to reach the North Pole.

1829-1833. Sir John Ross's voyage in search of a North-west Passage. Ross discovers King William's Land; the isthmus and peninsula of Boothia Felix; the Gulf of Boothia; the western sea of King William; and the northern magnetic pole.

1833. Captain Ross arrives at Hull, after an absence of four years, and when all hope of his return has been nearly abandoned.

1835. Captain Back and his companions arrive at Liverpool from their hazardous land expedition; they have visited the Great Fish River, and examined its course to the Polar Sea. [The Geographical Society awards the king's annual premium to Captain Back for his polar discoveries and enterprise, December, 1835.]

1836. Captain Back sets sail in command of the *Terror* on an exploring expedition to Wager River.

1845. Sir John Franklin and Captains Crozier and Fitzjames leave England in search of the North-west Passage on the 19th of May.

1848. H.M.S. *Plow*, Captain Moore (afterwards under Captain Maguire), sails from Sheerness to Behring's Straits, in search of Franklin, in January.

1848-1849. Sir James C. Ross, in command of the

Enterprise, begins the search for Sir John Franklin and his crews. He returns to England unsuccessful.

—Sir John Richardson engages in the Mackenzie River expedition in search of Franklin.

1850. The *Enterprise* (Captain Collinson) and the *Investigator* (Captain McClure) set sail from England in January.

—Many vessels are engaged this year in searching the Baffin's Bay region of the polar seas for Sir John Franklin; they are distributed thus:—1. A squadron, under Captain Austin, consisting of his own ship, the *Resolute*; the *Assistance*, Captain Ommanney; and the *Intrepid* and *Pioneer*, two steam-tugs, commanded by Lieutenants Cator and Osborn. 2. Two fast sailing brigs, the *Lady Franklin* and the *Sophie*, under Mr. Penny, an experienced seaman, for many years captain of a whaler in Baffin's Bay. 3. The *Felix*, with the *Mary* as tender, under the command of Sir John Ross. 4. Two American vessels, the *Rescue* and *Advance*, fitted out by the liberality of Mr. Henry Grinnell, a New York merchant, and commanded by Lieutenant de Haven and Mr. Griffin. 5. The *Prince Albert*, a small sailing vessel, the private property of Lady Franklin, under Commander Forsyth.

—October. THE NORTH-WEST PASSAGE IS DISCOVERED BY CAPTAIN MCCLURE.

1851. The *Prince Albert*, Mr. Kennedy, accompanied by Lieutenant Bellot, of the French navy, and John Hepburn, sails from Stromness to Prince Regent's Inlet. Returns October, 1852.

—Lieutenant Pim goes to St. Petersburg, intending to travel through Siberia to the mouth of the River Kolyma; but is dissuaded from proceeding by the Russian government.

1852. Sir Edward Belcher's expedition, consisting of the *Assistance*, Sir Edward Belcher; *Resolute*, Captain Kellett; *North Star*, Captain Pullen; *Intrepid*, Captain McClure.

tock; and *Pioneer*, Captain Sherard Osborn, sails from Woolwich on the 15th of April.

—The *Isabel*, Commander Inglefield, sails for the head of Baffin's Bay, Jones's Sound, and the Wellington Channel, on the 6th of July. Returns November, 1852.

1853. Mr. Kennedy sails again in the *Isabel*, on a renewed search for Franklin, to Behring's Straits.

—H.M.S. *Rattlesnake*, Commander Trollope, is dispatched to assist the *Plover*, Captain Maguire (who succeeded Captain Moore), at Point Barrow. The *Plover* is met with in August.

—The second American expedition sets sail. It consists of the *Advance*, under Dr. Kane.

—The *Phœnix* (accompanied by the *Breadalbane*, transport), Commander Inglefield, sails in May. Returns in October, bringing dispatches from Sir E. Belcher.

1854. Spring. Dr. Rae discovers relics of the Franklin expedition. He arrives with them in England on the 22nd of October.

—The *Phœnix*, *North Star*, and *Talbot*, under the command of Captain Inglefield, continue the search for the missing crews.

—Sir E. Belcher abandons his ships.

1855. News arrives in February of the safety of Captain Collinson. Captain Collinson reaches England in May.

—The third American expedition sails in May in search of Dr. Kane. It consists of the *Release*, the steamer *Arctic*, the barque *Eringo*, and another vessel, under the command of Lieutenant H. J. Hartstene, accompanied by a brother of Dr. Kane as surgeon.

—An overland expedition is sent out by the Hudson's Bay Company, June to September. Some more remains of Franklin's party are discovered.

1857. The eighteenth British expedition (equipped by Lady Franklin and her friends) sets sail. It consists of the *Foe*, under Captain M'Clintock. Leaves Aberdeen 1st of

July; returns 22nd of September, 1859. [Important discoveries are made by Lieutenant Hobson and Captain M'Clintock.]

1858. A Swedish expedition explores Spitzbergen.

1860. Dr. Hayes, in command of the schooner *United States*, makes a successful voyage. He winters at Port Foulke, on the Greenland coast.

1861. A Swedish expedition visits the northern and western shores of Spitzbergen.

1864. A Swedish expedition, under the direction of Professor Nordenskjöld, engages in arctic exploration.

1867. Captain Long discovers a mountainous country in the Polar Sea, beyond the Straits of Behring.

1869. Captain Carlsen and Captain Palliser navigate the sea of Kara as far as the mouths of the Obi.

1869-70. The German expedition of the *Germania* and *Hansa*.

1870. An expedition is made into the interior of Greenland by Professor Nordenskjöld and Dr. Berggren.

1871. Captain Hall, in command of the *Polaris*, advances as far as $82^{\circ} 16'$, the highest latitude ever reached by a ship.

1872-1874. The Austro-Hungarian expedition discovers Francis Joseph's Land.

1874. Captain Wiggins sails to the eastward as far as the Gulf of Obi.

1875. The English expedition, under Captain Nares, sets sail from Portsmouth on the 29th of May, its object being, if possible, to reach the North Pole.

—The *Pandora* sails from England. She returns unexpectedly on the 16th of October, having met with immense fields of ice, which it was impossible to penetrate. She had advanced up Peel's Sound to within twenty miles of King William's Island, the scene of Sir John Franklin's death. This point is farther than any previous vessel has penetrated.

—A Swedish expedition, under Professor Nordenskjöld, leaves Tromsö on the 8th of June, and reached the Yenesei, where they cast anchor, on the 15th of August. The professor says, "The attainment of the goal which we had reached has in vain been attempted by the great seafaring nations for hundreds of years." At the Yenesei the expedition divided, the professor and two companions, with three men, proceeding up the river in a Nordland boat, to return to Europe *via* Turuchansk and Jeniseisk, while their vessel, the *Pröven*, returned to Norway.

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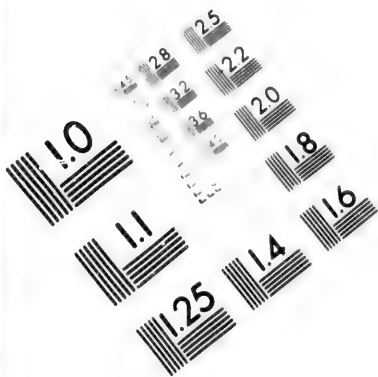
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APPENDIX.

THE "ALERT" AND "DISCOVERY" IN THE ARCTIC REGIONS.

NORTHWARD BOUND—IN THE ICE—AT PAYER HARBOUR—IN-
CESSANT STRUGGLES—THE "DISCOVERY" AT REST—THE
"ALERT" ALONE—IN WINTER QUARTERS—AUTUMN SLEDGE
PARTIES—LOOKING NORTH—THE SUN DISAPPEARS—WINTER
WORK AND WINTER PLAY—SHOOTING—ARCTIC OWLS—
SPRING TIME—TRAVELLING IN ARCTIC WILDS—ATTACKED
BY DISEASE—MISTAKEN IDEAS—A RESOLUTION—SOUTHWARDS
—HOME.

WE have seen in Chapter XXVII. how—strengthened
with every arrangement that engineering skill could apply,
and furnished with every mechanism and store that an ex-
perience of thirty years could suggest—the Arctic ships
Alert and *Discovery* left England on the 29th of May, 1875,
commissioned to attain the highest possible northern lati-
tude. The ships returned on the 29th of October, 1876, and
the story of their adventures, discoveries, and disappoint-
ments is as follows :—

Except a brisk fair wind after leaving Bantry Bay, the
voyage out was made through a succession of strong gales
and heavy seas. They anchored early in July in the har-
bour of Disco, when the *Valorous*, which had accompanied
them as tender, transferred her load of coal, sheep, and
other stores, to their already crowded decks.

The two ships left Upernavik—the most northerly settle-
ment in the world—on their voyage to the ice, on the 22nd
of July, 1875. After some unimportant adventures, caused
by fog, they reached the ice on the 24th. The passage
through the "middle pack" occupied only thirty-four
hours, much to the astonishment of the ice quartermasters,
who were accustomed to much more tedious navigation in
these parts.

On the morning of June 28th, anchor was cast near Port Foulke, with Smith Sound perfectly clear of ice in front of them.

Visits were then made to Littleton Island and to Lifeboat Cove, the scene of the wreck of the *Polaris*. A cairn having been erected at Littleton Island, and a survey made from the high land, the two ships sailed across the strait, but the weather coming on thick, the ships lost sight of one another for a short time. In the early morning of July 30th the *Discovery* was seen beset with ice near the land. The *Alert* then bored her way through the pack, and the two ships were secured in a harbour, named after Lieutenant Payer, about two miles to the south of Cape Sabine (about 79° N. lat.) A depôt of provisions was left, and a cairn built in the neighbourhood.

The ships were detained at Payer Harbour for three days, watching for an opening in the ice, getting under way whenever there appeared the slightest chance of proceeding onwards, but on each occasion being unable to pass Cape Sabine, were forced to return. Their resting-place proved to be an excellent station, well protected against the entrance of heavy flocs, possessing a lofty look-out, and deep navigable channels to the north and south, through which to proceed to sea immediately the ice opened with a favourable westerly wind. Though advantageously situated near a prominent cape, where the tidal currents ran with increased velocity, it was, however, subject to squally winds; but in icy seas during the summer, when awaiting the opening of the ice, these are rather an advantage than otherwise, striving as they do with the sea currents, which are the chief workers in removing the impediments to a vessel's advance.

At last, a start was made on the 6th of August, but before reaching the shore of Grinnel Land the ships were caught in the pack. After this date the progress to the northwards was an incessant struggle with the ice, and although no single opportunity was lost, advance was only

possible for short distances at a time, whenever the wind or current formed lanes of water between the ice and the land. So close was the ice that on every occasion the water channel by which the ships advanced very soon closed behind them, rendering it as difficult to return as to proceed on their way.

On the 25th of August, after many hair-breadth escapes, a well-sheltered harbour was reached on the west side of Hall's Basin, north of Lady Franklin's Sound, in lat. $81^{\circ} 44' N$. Here the *Discovery* was secured for the winter a few miles north of Polaris Bay, which was in sight on the opposite side of the Channel.

The ships parted company for the winter on the 28th August, and by the 29th the *Alert* reached Lincoln Bay, after a neck-and-neck race with a floe. A depôt of rations was deposited on the north shore on the 30th, and at high water of the same day the *Alert* proceeded, but being forced away from the land by some heavy ice, was beset in the afternoon by old floes, some of which were 80ft. thick. In this ice the *Alert* drifted south, until a favourable opportunity occurring, an excess of steam pressure enabled her to push through the ice and regain the shelter of Lincoln Bay—most providentially as it turned out, for a heavy gale set in, which drove the pack ice together, and sent it to the north-east out of Robeson Channel, leaving a clear passage for the *Alert* to proceed at $9\frac{1}{2}$ knots an hour beyond Cape Union without any trouble. During this severe struggle, as well as on previous occasions, it was noticeable, says the commander of the expedition, how futile the efforts of the crew were to clear away the ice on the bow or quarter which impeded the movement of the ship, compared to the enormous power exerted by the ship when able to ram her way between the pieces even at ordinary speed. Thus steamers are enabled to penetrate through a broken-up pack which the old voyagers, with their sailing vessels, necessarily deemed impassable. At the same time there is a limit to the

risks which are advisable to be run ; no ship has yet been built which could withstand a real nip between two pieces of heavy ice.

By noon of August 31 the *Alert* had reached $82^{\circ} 24' N.$ Lat., a higher latitude than had ever before been attained ; but here the wind was lost, and the *Alert* was obliged to proceed cautiously under steam, as the ice contracted the channel until it reached the shore. Captain—afterwards Sir George, for he was knighted on his return home—Nares having secured the vessel inside a protecting barrier of grounded bergs, landed, and observed the coast-line from a station about 300ft. above sea-level. Mounts Marie and Julia, and Cape Joseph Henry were clearly seen, but more than thirty degrees out in bearing from the position assigned them on Hall's chart. By this time the channel by which the ship had advanced was blocked by ice, and the *Alert* was embayed by the floe. A stiff south-west gale carried the pack two miles off shore, but it still kept close in against Point Sheridan, and prevented further advance to the north. On September 2, the wind suddenly shifted to the north-west, driving the pack towards the land, and threatening the ship with instant destruction. But the stranded floebergs acted like a reef, and the enormous masses of ice forced on to them by the advancing pack served only to still further consolidate the wall presented by the bergs, behind which the *Alert* was in comparative safety, each floe that was driven on shore helping to strengthen the small "dock" in which the vessel was imprisoned.

On the 13th and 14th September, a heavy gale sprang up and drove the ice out to sea, leaving a passage by which the ship could pass ; but, fortunately, as it happened, before the screw could be shipped, a blinding storm of mist came on, which, obscuring everything, prevented the ship from being moved. On the 16th, the wind again shifted, drove the ice on shore, and effectually closed in the *Alert* for the winter. Here the explorers remained for eleven months.

The following description of the *Alert's* winter quarters will be read with interest :—" Inside the barrier reef of heavy grounded ice low shores of sharp shingle rose here and there with little rocky domes, which became more connected as one advanced inland, and finally rose into a line of low mountains three and four hundred feet high. Snow—much of it, evidently, last season's—lay in deep banks under the steeper parts of the hills. A casual observer would look upon it as literally and absolutely barren. Even a lichen speck on its brown slaty rock was not to be found at once. But when one looked closely little clumps of saxifrage, the size of one's hand, could be discovered, and in one place a tiny dwarfed willow, with a stem no bigger than a crow-quill, creeping flat amongst the stones. Some sheltered spots gave protection to curiously-small specimens of the little yellow Arctic poppy, now withered into a brilliant green.

"Beyond the hills, an undulating—apparently interminable—expanse of high, snow-covered land spread southward and westward, and rose in one place, about eight miles off, into two dome-shaped mountains.

"Such were the winter quarters of the *Alert* in north latitude $82^{\circ} 27'$ —not only north of the winter quarters of any other ship, as, indeed, the *Discovery's* quarters were also, but eleven miles further north than the most northerly point reached by the gallant crew of the *Polaris*.

"Looking westward, a line of snow-covered mountain range, with high conic peaks, shut in the horizon, and ended north-westward in a fine headland, which had been seen by the *Polaris*, and named Cape Joseph Henry, after a distinguished member of the Smithsonian Institution. This point was the most northern true land seen by that expedition. It subsequently formed the advanced basis from which the *Alert's* sledge parties to the northward and to the westward started."

Sledge parties were now sent out, but, owing to the snow and the sloppy state of the surface underneath, the work was

carried on under circumstances of great difficulty, and many frost-bitten feet were the result of the inexperience of the men. Lieutenant Aldrich explored land to the north-west, and, from the summit of a mountain, 2000 feet high, observed land standing N.W. to latitude $83^{\circ} 7'$ for about sixty miles, with lofty mountains to the south. No land, however, was observed to the north.

Three sledges, pulled by eighteen men, under the command of Captain Markham, with Lieutenant Parr and Sub-Lieutenant Egerton, conveyed two boats to a suitable dépôt northwards; the party then returned to the ship, carrying on the sledge one man, who was simply exhausted by the novelty of the intensely hard work.

The main party of autumn sledges, under the command of Captain Markham, with Lieutenants Parr and May, with twenty-five men, left the ship on 25th September, commissioned to deposit a dépôt of provisions for next year's spring sledges at Cape Joseph Henry. They encountered as bad, if not worse, weather than in the last journey, and deep, soft snow greatly impeded their progress. Snow and mist interfered with their observations along the coast. The temperature fell every day, and the words "below zero" began to be omitted, as a matter of course. The dépôt, however, was duly laid out, and on 14th October the whole party returned with many small frost-bites amongst them, which subsequently involved the loss of two or three toes. Most vigorous efforts were made to communicate with the winter quarters of H.M.S. *Discovery*. Lieutenant Rawson's sledge first started southwards early in September, and made a second and more persistent effort in the first two weeks of October. Deep, soft snow lay in great drifts under the cliffs that had been passed on the voyage up. It was necessary to dig a road, 5 or 6 feet deep in many places. The men sank to their waists at every step. The sledge was often completely buried, and only showed the top of its load above the dry snowy dust. A return became unavoidable,

for after every effort only seven miles' distance from the ship had been accomplished in ten or eleven days.

This brought the autumn sledging to a close, and active preparations were at once made to meet the fast approaching winter. The sun disappeared on 12th October. Ice and sky glowed in constant sun-set tints, the mercury and spirit in the thermometer fell lower and lower, and while snow houses for observatories were built and snow was banked against the ship to help to retain her heat, twilight darkened into night, and the true darkness, silence, and solitude of the Polar winter set in.

The long winter does not appear to have been in reality so terrible as it is imagined. The cold, however, was something to speak of. It was the most intense ever registered, and when it was 104° below freezing-point life outside the ship could not exist, especially if the slightest wind was blowing. During those months the deck was banked up with sixteen inches of snow, in order to keep in the heat, and around the sides of the ship it was piled to the depth of some feet every fortnight. It is questionable whether the December darkness was as genuinely dark as an average English midnight. Clear starlight overhead, and gleaming snow under foot and around, did much to mitigate it. At midnight on the 22nd of December good plain Roman letters an inch long could be read without difficulty if held close, and the empty tins and cases marking the exercise mile could generally be seen several yards off. There was not, however, the faintest gleam to indicate the position of the vanished sun.

The welcome light of the moon came to cheer the ice-bound voyagers, with some evidence that their breath still existed, and its light reflected by mile after mile of glittering ice and snow was of dazzling brilliancy. Landwards from the *Alert* were large mountains, which, from the base upwards, looked like cones of snow; and outwards towards the ocean ice-ridges rose in such long and interminable

lines that the ship seemed for ever fixed in those dreadful solitudes.

The men on board were never allowed to lose heart. Such a failing they never evinced; indeed, men could not have borne up with braver hearts against dangers than they. The admirable preparations which had been made on board enabled them to pass their time as agreeably as mortals could under such circumstances. They could engage in bouts at the manly art of self-defence. All possible games that could be played in such close quarters were available for them. They also had a printing-press, in which to print their journals, and theatricals came off once a week.

Before the cold of the weather became so dangerous that the officers and men were kept confined to the ship, many expeditions were made on foot over the ice in her neighbourhood. A large floe, 75 feet high, settled down a short distance from her bow, and the men set themselves, while the weather would allow them, the task of cutting a stairway to its summit, which they rapidly succeeded in doing. The top of Look-out Floe, as they called it, was generally the termination of those excursions, and on one occasion they carried on a performance on it which made the piles of bergs flare as they never had done before. It was when, on the 5th of November, the crew of the *Alert*, with all due ceremony, burnt Guy Fawkes's effigy on its top. At the same moment, and without any preconcert, the crew of the *Discovery* were carrying out the same old practice on a smaller floe, in a degree of latitude to the south.

Whenever the weather permitted of existence outside the ship, there was some skating to be had on the smooth floes, but the great excitement was shooting, and the principal quarry was the musk-ox, an animal never before known to inhabit such latitudes. During the winter months about twenty-eight of those animals were shot, and in the spring about ten more, and their skins were afterwards brought

home. The hoofs are small and nicely formed, and the hair which clothes the animal is long and of a dark brown colour. The ermine—an animal never before known to live so far north—was also killed. The Greenland shore, off which the ships lay, was infested with owls, whose nests the sailors were very quick in discovering. When the spring set in they laid snares for the old ones, and they determined to carry home a large consignment of owlets; but when the young ones were all but fully grown, wolves descended on them in nearly every instance and ate them. This was very strange, as there were not more than a couple of wolves seen in the neighbourhood of the ship. The robbing of the nests that were left untouched was in itself a work of great danger, because the old owls descended on the men and darted at their eyes, and it required no ordinary wariness to keep them off. The owls were treated with the greatest care, and they lived until the *Alert* was caught in a fearful storm she encountered in her passage home, during which they died.

With the return of the sun on the 29th of February, after its long absence of five months, preparations were made for the sledging campaign. On March 17th Lieuts. Rawson and Egerton, accompanied by Christian Petersen, started to communicate with the *Discovery*, but the attempt proved fatal to poor Petersen, who was taken with cramp in the stomach, and, notwithstanding the heroic exertions of his companions, was compelled to return to the ship. He died from exhaustion three months afterwards.

Lieutenants Rawson and Egerton having recovered, again set out on the 20th of March, with the temperature at—30°, and after six days of scrambling over rough ice succeeded in reaching the *Discovery*.

On the 3rd of April the sledge parties were all prepared to start, and a finer looking body of men or better equipped sledges were never previously collected together. The chief sledge party was under the command of Commander

Markham and Lieutenant Parr. Their destination was the Pole itself, if they could reach it.

They were absent seventy-two days from the ship; and on the 12th of May succeeded in planting the British flag in latitude $83^{\circ} 20' 26''$ N. From this position there was no appearance of land to the northward, but, curiously enough, the depth of the water was found to be only seventy-two fathoms. Although the distance made good was only seventy-three miles from the ship, 276 miles were travelled over to accomplish it. It is quite impossible for any body of men ever to excel the praiseworthy perseverance displayed by this gallant party in their arduous struggle over the roughest and most monotonous road imaginable. Their journey, considering the ever-recurring difficulties, eclipsed all former ones. The result of their severe labour proves the utter impracticability of travelling over the Polar Sea to any great distance from land, and also that Baron von Wrangel was perfectly correct in his expressed opinion that before the North Pole can be reached it will be first necessary to discover a continuous coast line leading towards it.

In journeying to the northward, says Captain Nares, the route after leaving the coast seldom lay over smooth ice; the somewhat level floes or fields, although standing at a mean height of six feet above the neighbouring ice, were small, usually less than a mile across. Their surfaces were thickly studded over with rounded blue-topped ice humps, of a mean height above the general level of from ten to twenty feet, lying sometimes in ranges, but more frequently separated at a distance of from a hundred to two hundred yards apart, the depressions between being filled with snow deeply scored into ridges by the wind, the whole composition being well comparable to a suddenly frozen oceanic sea. Separating these floes, as it were by a broadened-out hedge, lay a vast collection of debris of the previous summer's broken-up pack-ice,

which had been re-frozen during the winter into one chaotic rugged mass of angular blocks of various heights up to 40 and 50 feet, and every possible shape, leaving little, if any, choice of a road over, through, or round about them. Among these was a continuous series of steep-sided snow-drifts sloping down from the highest altitude of the pressed-up ice until lost in the general level at a distance of about 100 yards. The prevailing wind during the previous winter having been from the westward, and the sledges' course being due north, these "sastrugi," instead of rendering the road smoother, as they frequently do in travelling along a coast line, when advantage can be taken of their long smooth tops, had to be encountered nearly at right angles. The whole formed the roughest line of way imaginable, without the slightest prospect of ever improving.

The journey was consequently an incessant battle to overcome ever-recurring obstacles, each hard-won success stimulating them for the next struggle. A passage had always to be cut through the squeezed-up ice with pickaxes, an extra one being carried for the purpose, and an incline picked out of the perpendicular side of the high floes or a roadway built up, before the sledges, generally one at a time, could be brought on. Instead of advancing with a steady walk, the usual means of progression, more than half of each day was expended by the whole party facing the sledge and pulling it forward a few feet at a time. Under these circumstances, the distance attained, short as it may be considered by some, was truly marvellous. The advance only averaged a mile and a quarter daily—in fact, much the same rate as that attained by Sir Edward Parry in his somewhat similar attempt in the summer of 1827.

During this memorable journey to penetrate towards the north over the heavy Polar oceanic ice, without the assistance of continuous land along which to travel, in which has been displayed in its highest state the pluck and courageous deter-

mination of the British seaman to steadily persevere, day after day, against apparently insurmountable difficulties, their spirits rising as the opposition increased, Commander Markham and Lieutenant Parr and their brave associates succeeded in advancing the national flag, as we have said, to lat. $83^{\circ} 20' 26''$ N., leaving a distance of 400 miles still to be travelled over before the North Pole is reached.

In addition to the dispatch of the northern travellers, the coast line to the westward of the *Alert's* position was traced to a distance of 220 miles by a party under the command of Lieutenant Aldrich; the extreme position reached was in lat. $82^{\circ} 10'$ N., long. $86^{\circ} 30'$ W., the coast line being continuous from the *Alert's* winter quarters. The most northerly land, Cape Columbia, is in lat. $83^{\circ} 7'$ N., long. $70^{\circ} 30'$ W. The coast of Greenland was explored by travelling parties from the *Discovery*, under the command of Lieutenants Beaumont and Rawson; they succeeded in reaching a position in lat. $82^{\circ} 18'$ N., long. $50^{\circ} 40'$ W., seventy miles north-west of Repulse Harbour. The land extended as far as lat. $82^{\circ} 54'$ N., long. $48^{\circ} 33'$ W., but very misty weather prevented its character being determined with exactness. Lieutenant Archer, with a party from the *Discovery*, explored Lady Franklin Sound, proving that it terminated at a distance of sixty-five miles from the mouth, with lofty mountains and glacier-filled valleys to the westward. Lieutenant Fulford and Dr. Coppinger explored Petermann Fiord, finding it blocked up with a low glacier. With the exception of Hayes Sound, the coast line of Smith Sound has now been explored from north to south.

To give some idea of the amount of work entailed in sending out an arctic sledge party and advancing provisions for their sustenance, it may be mentioned that, in order to support the extended travellers on the coast of Greenland and those examining Petermann Fiord, Robeson Channel was crossed eleven times from the *Alert's* position to a depôt established north of Cape Brevoort, and Hall's Basin

eleven times between Discovery Bay and Polaris Bay, making a total of twenty-two sledge parties crossing the Straits, including the transporting of two boats.

During the absence of the travellers, owing to their inability to procure any fresh game, as most former expeditions had done, an attack of scurvy broke out in each of the extended sledge parties when at their furthest distance from any help. The return journeys were therefore a prolonged struggle homewards of gradually weakening men, the available force to pull the sledge constantly decreasing, and the weight to be dragged as steadily increasing, as one after another the invalids were stricken down and had to be carried by their weakened comrades. Lieutenant Parr setting out for a lonely heroic walk of thirty-five miles, over soft snow and the heavy broken-up ice, guiding himself in the mist by the fresh track of a roaming wolf, brought intelligence to the *Alert* of the prostration of the northern division. Relief was immediately sent out, officers and men alike dragging the sledges; but, unfortunately, the parties did not meet in time to save the life of the man who died, and who had been buried by the roadside in the thick ice only a few hours previously. On arriving on board, out of the original seventeen men, five only—the two officers and three men, Radmore, Joliffe, and Maskell—were able to work; three others, Laurence, Harley, and Winston, cheerfully but painfully struggled on with alpenstocks, and were just able to walk on board; the remainder, being perfectly helpless, were carried on sledges. The Greenland and Western divisions not returning on the day appointed, relief was sent to meet them, and on each occasion it arrived just in the nick of time. In the Western party, Lieutenant Aldrich and one man, Adam Ayles, out of a crew of seven, remained at the drag ropes. In the Greenland division, when met by Lieutenant Rawson and Dr. Coppinger, Lieutenant Beaumont, Alexander Grey, ice quartermaster, and Frank Jones, stoker, were dragging forward their four

helpless comrades. Before arrival at the *Polaris* depôt, Grey and Jones were obliged to fall out, leaving the three officers alone at the drag ropes; the dog sledges, under Hans, the Eskimo, who had been of the utmost service to the expedition, helping to advance the invalids onwards two at a time. The two who died just succeeded in reaching Polaris Bay and sighting the hills above their Arctic home, on the opposite side of the channel, before their spirits were called away.

The Greenland party falling back on the *Polaris* depôt remained there until the men had recovered, and did not finally recross the Strait until after the ice had broken up.

Six musk oxen were shot at the *Alert's* winter quarters, and three half way between her position and that of the *Discovery*. The remaining items in the *Alert's* game list at her northern station show seven hares and ninety birds of different kinds, the latter shot only in July. The birds certainly do not migrate beyond Cape Joseph Henry, lat. $82^{\circ} 50' N$. Very few seals were seen north of Cape Union, and no bears, dove-kies, or loons ever reach the Polar Sea. In fact, "the Arctic Sea teeming with life" has been proved a fallacy. It is rather a desert, and it may well be said, "Here life ends."

"On considering the result of the spring sledging operations, I concluded," says Captain Nares, "that, owing to the absence of land trending to the northward, and the Polar pack not being navigable, no ship could be carried north on either side of Smith's Sound beyond the position we had already attained; and also that from any maintainable position in Smith's Sound it was impossible to advance nearer the Pole by sledges. The only object, therefore, to be gained by the expedition remaining in the vicinity for another season, would be to extend the exploration of the shores of Grant Land to the south-westward, and Greenland to the north-east or eastward, but as with the whole resources of the expedition I could not hope to advance more than 50 miles

beyond the positions already attained on those coasts, and, moreover, although the crew were rapidly recovering from the disease which had attacked them, they would certainly be unfit for employment on extended sledge parties next year, I decided that the expedition should return to England as soon as the ice broke up and released the ship. It was with the very greatest regret I felt it my duty to give up the further examination of the northern coast of Greenland."

Although pools of water formed along the tidal crack in the ice early in June, 1876, the thaw did not regularly set in before the last week of the month. On July 1st water in the ravines commenced to run; after that date the thaw was very rapid both on shore and on the ice, but no decided motion took place before the 20th. On the 23rd, with a strong south-west wind, the pack was driven away from the shore, but no navigable channel was made to seaward.

On the 31st of July, the *Alert* succeeded in leaving her winter quarters, and, after many struggles with the ice, joined the *Discovery* on the 12th of August.

Lady Franklin Sound remained closed until the 20th, when, a chance occurring, both ships were pushed into the ice, and succeeded in crossing. After this date the same kind of battle and slow progress took place daily between the ships and the ice as during the passage north, every inch gained being of importance as the ice closed in the rear.

It was not until the 9th of September, the very last of the season, that the mouth of Hayes Sound was crossed and the expedition again rejoiced in "open water."

Most of the voyage homewards was performed under sail, but the wind was not by any means favourable, and some disagreeably rough weather was experienced in Baffin's Bay. The two vessels were parted by heavy weather on the 19th of October.

The *Alert* reached Valentia, all well, on Friday, the 27th October, and on Sunday, the 29th, both vessels reached Queenstown, the *Discovery* arriving in the morning and the

Alert some hours later. There the gallant explorers were *fêted* and welcomed; but a more impressive, though not more hearty, greeting awaited them at Portsmouth, for ere they reached there the telegraph had flashed the unexpected news to every part of the world, and the whole country was in a flutter of sympathetic excitement.

The Lords of the Admiralty expressed their approbation of the conduct of the explorers. Captain Nares received the honour of knighthood, and several special promotions were made for services rendered in connection with the expedition. But there was one element of discord to mar the harmony. No sooner had the circumstances of the voyage been fully reported than a lively discussion arose as to the outbreak of scurvy in the sledging parties. It appears that these parties had with them no provision of lime-juice—always regarded as a specific against scurvy—for the daily rations of the men, and this contrary to the instructions issued to Sir George Nares previous to his setting sail. An Admiralty Committee was appointed to institute an inquiry, and report on the cause of the outbreak of the disease. The report was issued on the 3rd of March, 1877. It stated that the outbreak was due to the fact that lime-juice was not supplied to the sledge parties, and that Sir George Nares had no sufficient reason for departing from the instructions contained in the memorandum forwarded to him by the Director-General of the Medical Department of the Navy.

On the whole, however, we have no reason to regard the Arctic Expedition of 1875-76 with dissatisfaction. The Pole was not arrived at, it is true, but valuable additions have been made to our geographical knowledge, and natural history has been a decided gainer by the winter's residence in Arctic wilds. This is certainly better than the barren triumph of being the first to visit a spot inaccessible since the beginning of the world.

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